

Evidence to science and technology sub-committee V-Cs split on payment of full student costs

by Alan Cune

Vice-Chancellors differed sharply among themselves over student fees while giving evidence to a parliamentary select committee last week. Sir Brian Flowers, rector of Imperial College, London, and a former chairman of the Science Research Council told a sub-committee of the Commons Select Committee on Science and Technology that students should pay the full economic costs of their education.

"We do not charge proper fees for students at any level," he argued. "If we were to charge proper fees, which could be £2,000 a year, the situation in the universities would be a little easier."

Sir Brian pointed out that since most student fees were paid by local authorities, who were reimbursed by central government, the increase in fees would be largely an accounting exercise. Students from non-Commonwealth countries could, however, be charged more, but he said that such countries would pay the proper price for their education.

Sir Brian's views, however, were shared by some of his fellow vice-chancellors at the meeting, and they do not represent the thinking of the Committee of Vice-Chancellors and Principals.

There was a second difference of opinion when Sir Samuel Curran, principal of Heriot-Watt University, argued that only differential fees for technology students and arts students would halt the decline in student numbers entering science and technology. He said that the prospect of a career in technology was not at present an attractive one.

There was no support for this view from the other members of the CVCP team.

Sir Bernard Christopherson said the universities would not either own or be squeezed out Government money remained. He told the Select

Committee "We shall look for money from other than government sources. We have had a considerable number of requests from OPEC countries and we do not want to give the impression that we are in despair and that if no more money comes we shall pack up. We will find expedients."

But it will mean that we will be doing things that we do not regard as the most important either for this country or its educational system."

The vice-chancellors strongly supported reform for university teachers, although they accepted that there was a serious provision blockage in the offing. Sir Brian Flowers suggested that this could be overcome if the University Grants Committee were prepared to change the senior/junior ratio in the universities for a limited period.

Earlier last week, the Select Committee examined representatives of the Committee of Directors of Polytechnics.

Sir Alex Smith, director of Manchester Polytechnic and chairman of the CDP argued that involvement in higher education should be part of the price industry must pay for government aid.

"I am aware that the Government is making available large sums of money in industry and I suggest that as part of the deal, the supported industry should become involved in education through sandwich course placements or by releasing staff for course teaching," he said.

In a written memorandum, the CDP claimed that success rates for research grants in universities and polytechnics were now similar, as figures for 1973 for science and engineering excluding "big" science showed.

Polytechnic research was, however, only one-twentieth of the volume in cash terms, of university research.

Row follows 'broken promise'

Students boycotted lectures and staff picketed the Queensway site of Middlesex Polytechnic on Tuesday in protest against the threatened reduction of senior staff salaries.

The dispute centres round verbal assurances given by senior staff of the polytechnic four years ago to Mr. Bodington, then, although he was 62, he would have a five-year contract with the polytechnic to develop an interdisciplinary society and technology degree.

According to senior officials and the director, Dr. Raymond Rickett, no such assurances were given. But Sir Bodington, on the other hand, the local branch of the Association of Teachers in Technical Institutions, Mr. Bodington would have refused the appointment at the time if they had not been given.

Nearly 200 staff have signed a petition asking for Mr. Bodington, a popular lecturer, to stay. Staff and students were to picket the meeting of the polytechnic joint education committee at Wood Green civic centre this week.

Mr. Modelling, Wohlberg, secretary of the Enfield branch of AITT, said that the union were concerned about Mr. Bodington's case because it showed that education cuts were beginning to affect people and that the directorate of the polytechnic was rickety from the 15-site polytechnic.

Dr. Rickett said he had personally investigated the case and taken two signed statements from senior staff which showed that no verbal assurances had been offered to Mr. Bodington. "I feel I have taken every step possible and bent over backwards to help in this case. Last year I had the discretion to extend Mr. Bodington's contract which I did but this time the power lies with the local authority."

Mr. Mulley goes to bat on finance. Minister of State for Education and Science, John Gummer, told the universities for further cuts and economies and being full of half-baked ideas, there should be a full-scale inquiry into higher education. Mr. Keith Hampton, an Opposition spokesman on education, declined to comment on this week.

During a question on university teachers' pay, he said a lot of unnecessary damage was done by the going to arbitration earlier.

Mr. Fred Mulley, the new Secretary of State for Education and Science, strongly repudiated what Mr. Hampton had said about the activities of Lord Crowther-Hunt. The Opposition must understand that when they say they are preaching about the need for the most drastic and futuristic cuts in

'Scots UGC a threat to research'

by David Dickson

The funding and organization of research would be "disastrously impaired" if devolution implied a Scottish university grants committee and research councils, according to the University of Edinburgh.

In a memorandum to the science sub-committee of the House of Commons Select Committee on Science and Technology, the university says that it could not operate effectively with such a small pool of scientists.

"However, local discussion to rationalize relevant aspects of research and development work is of value," the university adds.

The memorandum suggests that in an effort to maintain the long-term viability of university research, the Science Research Council should consider meeting its tenure on its own staff to a small number of research staff in universities.

It also suggests that the research income of a university should be acknowledged publicly as one of the criteria for the allocation of UGC funds, both to and within the university.

"Unit costs, which merely measure the throughput of students, must not, by default, become the only statistics of relevance in the allocation of funds," says the university.

On short-term contract research the university says that it has had difficulty in obtaining appropriate units, particularly since it is hard to pursue Government departments and industry to make proper provision for overheads, despite the guidelines set out by the UGC.

In a separate memorandum, postgraduate students at the university suggest that there should be an end to the selection of postgraduates by the class of their degree.

"The ineffectiveness of this is surely demonstrated by the efforts which are made to circumvent it with the research assistantship system," according to the university's postgraduate committee.

College will not withdraw S Africa funds

The governing body of St Antony's College, Oxford, has refused to withdraw the college's substantial investments in South Africa. The decision follows an earlier general meeting when a motion was passed urging the governing body to explore the more rapid policy of disinvestment.

Now a protest campaign has been launched at the college and a petition calling for the governing body to reconsider its policy has been drawn up with backing from seven senior members of the college, including one of the governing body.

The motion for disinvestment was rejected by 18 votes. There were 10 votes in favour but six members abstained.

The motion put forward by the principal general meeting specifically recommended divestment of shares, companies and property in the Apartheid Movement. Mr. P. Shaw, a student, told the investment committee that a year ago he had told 1964-65, were profitable and that considerations of financial expediency militated against divestment.

The petition protesting against the governing body's decision claims the general meeting recommendation was rejected mostly without proper discussion and investigation. It says the rejection was publicly identified St Antony's with refusing to dissociate itself from apartheid.

It has been pointed out that the headline in the issue of June 13 should have read "Oxford College may withdraw South Africa investments" and not "Oxford College will withdraw South Africa investments".

AMA proposes 'more rational' approach to poly funding

by Mark Vaughan

A significant change in the financing of the polytechnics has been suggested by the Association of Metropolitan Authorities.

The plan, put forward by the AMA's education committee, stems from a growing desire to introduce a more rational approach to the funding of polytechnics. Authorities with polytechnics in their areas have been accused by those without polytechnics of extravagant spending.

On the other hand, the L.E.A.s controlling the polytechnics have complained that those without did not understand the problems.

Miss Sheila Wright, chairman of the committee, said the new idea, if implemented, would establish reasonable "norms" of expenditure for the 30 polytechnics, which would be met from a central pool. Anything spent over and above this "norm" would have to be paid for by the individual L.E.A.

The Association of County Councils this week welcomed the proposal. A spokesman for the education department said: "The action they have chosen as a possible solution to this complex problem holds the most likely chance of success."

Dr. Raymond Rickett, director of Middlesex Polytechnic, said it was inevitable that norms must be established.

The AMA proposal, which he discussed by the Council of Local Education Authorities before any action is taken.—TFS.

Time and motion study boycott

Technical staff in Cambridge University's School of Biological Sciences have decided to boycott an investigation into the organization and workload of its assistant staff.

The investigation is being carried out by a study team set up to recommend ways to reduce assistant staff costs by 12 per cent as part of the university's policy to cut its work force.

The Cambridge University branch of the Association of Scientific, Technical and Managerial Staffs has instructed its members in the school not to cooperate with the investigating team.

The branch is demanding that a cooperative study of the complete university operation should be set up with both university and trade union representatives, and that economies other than staff reductions should also be considered.

In a statement issued last week, the ASTMS branch condemned the study team looking at the two faculties in the biology school as a "one-sided, short-sighted operation" which would reduce the service which the union's members would be able to offer to teaching and research.

The chairman of the university branch, Mr. Keith Dymally, said his members were only too ready to help the university to deal with its cash shortage.

"I regret that it has been necessary to instruct our members in the life sciences departments not to cooperate with the study team, but it is the only way to emphasize our wish to be fully consulted in these matters."

Mr. Roger Bagg, the university's personnel officer, said on Tuesday that the School of Biological Sciences had offered to consult fully with all the trade unions involved in carrying out the study.

The strike at Cambridge University's Senate House in protest over lack of nursery facilities was a skillfully executed.

Ross quits PNL

Dr. Walter Ross, chairman of the court of governors at the Polytechnic of North London, has resigned a week after a committee to investigate the conduct of the director, Mr. Terence Miller, was set up.

£1m Saudi contract signed

A £1m contract has been signed with the Saudi Arabian government to provide English teaching in two departments of a new university at Jeddah.

Will university salaries escape Healey's axe?

by David Walker

University teachers could lose up to £16 a week if the pay code outlined on Tuesday by Mr. Healey, Chancellor of the Exchequer, is applied quickly.

A pay freeze limiting settlements to 10 per cent could apply to the negotiations going on at present between the Association of University Teachers and the Government on the cost of living element to be added to the scales agreed for October this year. It could take up to £850 from the expected total increase.

A 10 per cent norm which, if applied, would mean the university teachers had once again been caught by changes in incomes policy would give a starting salary for lecturers of £3,055, for senior lecturers and readers of £6,421 and a professorial average of £9,772 instead of expected figures of £3,333, £7,005 and £10,660.

Senior university administrators halve the 10 per cent would almost certainly be added to the scales awarded recently by arbitrators and due to begin in October.

Officials of the Department of Education said the Government's White Paper, to be published during next week, would give guidance on whether negotiations would be affected by the proposed policy.

Mr. Laurie Soper, general secretary of the AUT, said the arbitration board to university teachers made it clear that the basic element was for 1974 salaries and the cost of living increase for 1974-75. Both parts of the package in other words were part of this year's "pay round" and as such could not be effected by Mr. Healey's statement which proposed restraint during the next pay round.

Mr. Sapper, who in recent weeks has watched the further education teachers' salary claim with some emphasis, said that negotiations on the cost of living element were going on now.

The DCS will tell the AUT early next week how the negotiations fit into the Government's scheme.

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Mulley supports expansion of part-time degree courses

by Staff Reporters

The Government disclosed this week that it is to discuss the expansion of part-time degree courses with universities and industry. Mr. Mulley, Secretary of State for Education and Science, said: "I hope the University Grants Committee will encourage the universities to move in this direction, although it is only realistic to add that it cannot be done without some extra expenditure."

He added that Lord Crowther-Hunt, Minister of State overseeing higher education, would be starting the discussions shortly.

The Government's new thinking was revealed by Mr. Mulley to a letter to Dr. Keith Hampton, a Conservative spokesman on higher education. Dr. Hampton, formerly a lecturer at Edinburgh University, had said that part-time degree courses were one way of achieving value for money from universities.

Mr. Mulley, in his reply, added: "The greater use of university capacity, of laboratories in particular, could be realized by the development of part-time and evening only instruction."

"Twenty years ago some universities had cut a lot of part-time provision. One obviously must be careful that there would not be a dilution in the quality of degree courses, but from my own experience as a lecturer both staff and students would benefit enormously from having more mature students around them."

Nearly 27,000 students in universities in 1972-73 were studying part-time, compared with 246,800 on full-time courses. There were 116,600 part-time degree students in colleges and polytechnics.

University spokesmen said this week that they were ready to consider any proposals "carefully", although they pointed out that universities already catered for many part-time students. It was also emphasized that an expansion of part-time courses would add to costs, since universities would need more staff as well as books and equipment.

Dr. Hampton said any extra costs would be more than offset by gains in productivity and in the maturity of students.

Lord Crowther-Hunt will be discussing part-time degree courses as only one item in the debate on priorities that he has initiated in several recent speeches.

Universities will soon be forced to take in many more part-time mature students because of financial constraints. Dr. John Lowe, head of the Social Science Institute of the OECD told a national conference on continuing education this week.

Universities had always been conservative and resistant to reforms, he said, but the notion of recurrent education was undoubtedly without a general shift in attitude.

At the same time when additional resources are in short supply, it becomes essential to consider whether we are deploying what we have already to best effect.

Mr. Wilson also echoed some of the ideas that have been aired recently by Lord Crowther-Hunt, particularly those on the balance between arts and science, student preferences and the needs of industry and commerce.

Professor R. J. Bell, principal of the school, said that it applied to play its part in the wider world of management education.

"The nation's productive capacity depends on the skills of its manpower, scientists and technologists," he said. "We cannot afford a shortage of these skills, and concern has been expressed about the numbers of students in the relevant courses of study who will be coming from

Annan defends 'scandal' poly' director

A strongly worded defence of Mr. Terence Miller, director of the Polytechnic of North London, was made in a letter to *The Times* yesterday by Lord Annan, provost of University College, London.

Lord Annan said the polytechnic's affairs were a public scandal with its governors intimidated by a militant student minority and many members of staff terrorised into adopting a neutral role over student brutality.

"From the time he was appointed Mr. Miller has been subjected to brutal and broken treatment by militant students and their supporters among the academic staff (some of whom openly champion disruption). He has been physically assaulted and his attempts to reestablish academic standards have been derided and flouted."

Contingency plans for cutting education spending by a possible £520m or more over the next few years are now being drawn up by officials in the Department of Education and Science as part of a major review of public spending for the rest of the decade.

They are quite separate from the threat of cuts in the present economic crisis which could, even yet, lead to a further £50m cut in education spending for 1976-77.

Next year it is likely that education spending will be held down to the 1976-77 level, which would mean a nil growth rate.

If there is a nil growth rate then education finance will effectively be cut by £190m in 1977-78 and by a further £330m in 1978-79.

The biggest cuts could well be made in higher and further education. The student population will rise over the next few years but this would not preclude a cutback in this area being made as early as next year.

The growth rate in higher and further education were halved from 1975-76 levels there would be saving to current expenditure of about £80 million in 1978-79. The saving in capital costs could be almost as great.—TFS.

The conference, held at Oxford for three days, was organized by a committee including representatives of the National Adult Education Organizations, the Open University, the broadcasting authorities, the TUC and the educational press. Mr. Paul Fordham, director of external studies at Southampton University, was in the chair.

The theme was the social, political and economic constraints limiting access to continuing education, and it aimed to work out practical steps that could be taken to extend learning opportunities for adults.

Speakers included Professor G. R. P. R. of the Swedish Institute of Social Research at the OECD, and Dr. A. H. Halsey, director of the department of social and administrative studies, Oxford University.

A full report of the conference will be published next week.

Polys' student/staff ratios better than universities'

Comparative student/staff ratios for the universities and polytechnics for 1973-74 have been announced by Mr. Mulley, Secretary of State for Education and Science. The ratio for full-time students and staff in universities was 8.0:1 and in polytechnics 5.8:1, he told the Commons.

The substantial number of part-time students in polytechnics would make the overall ratio about 6.9:1.

THES publication

We apologize to our readers and advertisers for our failure to publish *The Times Higher Education Supplement* last week due to a printing error. Our enclosed issue this week includes most of the news, features, reviews and classified advertising that would have been published last Friday.

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Surrey rent strikers defeated in test case

Rent strikers at the University of Surrey have lost their unique test case, in which they were contesting the university's right to put up accommodation fees after the academic year had begun.

Their case was overruled by Judge Peter Salomon in Guildford County Court last week and they were ordered to pay outstanding accommodation fees totalling £10,617.50 plus costs of almost £3,000, but the students are now considering an appeal.

If the students do not lodge an appeal, they must pay within 14 days.

The rent strike began at the university last autumn, after accommodation fees were increased for spring 1975 from £4.60 a week to £5.75. The students were arguing whether during the academic year the university was entitled to increase the accommodation fees and to recover late payment fees of £5 from students who did not pay in a given period. This is the first time students have been taken to court on this issue. A total of 195 students were involved when the case began.

Mr Don Lloyd, 23, student union vice president of the university who was involved in the test case, said after the verdict: "I do not think the judgement does justice to the legal merits of our case, which has been backed up by the National Union of Students which is going to pay our costs."

Summing up, Judge Salomon said this was a test case. He pointed out that the accommodation fee was highly subsidised and "no student has attempted to set out a case that comparable accommodation and services are obtainable outside the university either at or anywhere near the fees".

£42,000 look at role change

One of the largest Departments of Education and Science research grants to be awarded to a college of education, has been given to Brixton College to investigate how it is transformed into a college of higher education.

A sum of £42,000 has been given over a three-year period so that researchers can follow its development from a specialist teacher training college to one of Britain's first liberal arts colleges.

One of the more important parts of the investigation will be an analysis of how students choose particular courses and what factors underlie a decision to study at a liberal arts college to preference to a university or polytechnic.

Since many of the new courses, including the pioneering Diploma of Higher Education, are modular in structure, the study will try to plot why students make particular choices and whether these choices are determined by previous education.

One possibility being examined is that students who are given a free choice might opt for a narrower range of options than would have been available in a prescribed course.

The study will also consider the effectiveness of the wide range of administrative and counselling services available.

Research exposes Scots' myth

A persistent myth that Scottish universities have a high proportion of working class entrants will take a heavy blow when a research paper from Edinburgh University's Centre for Educational Sociology is published soon.

The paper shows that in the past 12 years the percentage of men students from working class backgrounds has fallen to roughly the same level as in England. "The social breadth" of the universities has been one of their distinctive characteristics in the eyes of many politicians and defenders of the Scottish heritage.

Mr Andrew McPherson, a director of the centre and university lecturer in sociology, said the paper recorded that the Scottish trend was in line with the rest of the United Kingdom.

The paper is based on a longitudinal study of school children in

He said the university and students' union had agreed to a figure of £4.60 a week residence fee for 1973/74 in March 1973. "I find that if an economic charge were to be levied by the university, this sum of £4.60 would have to be increased by 50 per cent before the university broke even and still that would not include payment towards capital cost of residence", he said.

He felt the university had implied its intention to put up fees from early 1974, and held back solely because of the Government's rent freeze, introduced shortly after the Labour Party's election victory in February 1974.

The £5.75 increase decided by the university last November was a 25 per cent rise in line with the 25 per cent students grant increase effective from last October he said. It was introduced as soon as the Government lifted its rent freeze for student accommodation on December 31, 1974.

If students did not pay fees after a fortnight of term they had to pay £5 late payment. This allowed them a choice, and this was agreed by a staff-students residence committee in March, 1973 Judge Salomon pointed out. He felt sure Mr Lloyd was aware of this decision.

Thus he found the claim proved and gave judgement to the university for £10,617.50 owed them by Mr Lloyd, as well as for the other cases against students.

The outstanding accommodation fees would be paid to the university out of the union's rent strike fund.

● Sussex University, where the council has agreed that accommodation fees for 1975/76 should be £7 a week, is offering students a discount of £12.50 on fees paid a whole year in advance.

Group to fight 'NUS extremes'

A moderate students' group has been formed to fight what it sees as unrepresentative and extreme policies recently adopted by the National Union of Students.

Students for Representative Policies, which takes over the mantle of the earlier Radical Action Group, will campaign next term to make the NUS more democratic.

Containing members of all three political parties, the group claims to have members in at least 20 colleges and universities and a total membership of about 500. It disclaims any affiliation with any existing student political organization.

Mr Paul Booth, national secretary of the group and a Liberal Party member from University College, Cardiff, said the people who pronounced NUS policy were an entrenched clique beholden to tiny minorities. The policies adopted on Northern Ireland and the denial of platform to so-called racist speakers had shown how unrepresentative they were.

The group last week announced a new policy document on education which argues for the retention of a private sector and the need for discipline in schools as well as "special treatment" for the disruptive minority.

Adult students take over college

by Sue Reid

Students and teaching staff of Fircroft College, Birmingham, staged a lobby of MPs at the House of Commons last week in protest over the threatened closure of the college this month. Trustees of Fircroft ruled the college might close after students refused to recognize Mr Tony Corfield, the principal, and introduced their own educational programme, ignoring the normal syllabus.

Tranahles began at Fircroft, an adult residential college, earlier this year when Mr Corfield said tutors could not speak of an education mapping of staff and students. The 54 students went on strike and then introduced the new education programme, which included lectures in Marxism, and halted Mr Corfield from teaching. The programme ran for the final two weeks of last term and throughout this term.

The trustees agreed to let the students' programme continue until further notice but have now announced the possible closure, which is likely to be temporary, at the end of this term.

Mr Christopher Cadbury, chairman of the trustees said no final decision has been reached. It was impossible to make an important decision hurriedly and under the present pressures, with the authority of the principal challenged, his

teaching barred and disorder in the college. He claimed the students had rejected suggestions for a special education committee to be set up, with three student members, for the prime purpose of taking responsibility for the education programme. "I still hope that we may find some way to continue the college on normal lines. If it is decided to close temporarily we hope the college could be used for some other worthwhile educational purpose while its long-term future is sorted out", he said.

"Any suggestion that permanent closure is being considered is completely unfounded." But Mr Trevor Blackwell, one of the college's four tutors, has expressed scepticism about the term "temporary". "I think if the college closed down 'temporarily' it would never open again", he said.

Fircroft was one of only seven adult education colleges in the country and was unique in the adult education field because it required no entrance qualifications and students took no examinations.

Mr Blackwell said the lobby of MPs had been entirely successful. The deputation has seen 16 MPs who had promised to take up the issue with Mr Fred Mulley, Secretary of State for Education. Seven of the MPs had already written to Lord Crowther-Hunt, Minister of

State for Education, asking for a special inquiry. Birmingham Trades Council is asking the TUC to set up an inquiry and the Council for Academic Freedom and Democracy is to mount an investigation into the threatened closure of the college, led by Mr John Downing, CAFF chairman.

● Attingham Adult College in Shropshire is faced with the prospect of closure this year because of financial difficulties. Lord Bynne, chairman of the college governors, says reserves will be eliminated by the operating deficit and the college will begin the next financial year with an overall deficit of £2,000.

During the past 18 months several approaches to local authorities apart from Salop County Council which provided £35,000 for 1974/75 had been unsuccessful except in one case, said Lord Bynne. The governors felt it would be unwise to ask them to attempt to pay on, or for the county council to make any special effort to assist them to do so, until the attitude of the Government was clarified as it was clear the urgency of the problem was real.

Lord Bridgeman, another member of the governors, was expected to raise a question to the House of Lords this week outlining the plight of the college and may other adult education institutions like it.



From left: Professor Boorstin, Dr Blakemore, Lord Boyle.

Three Reith lecturers named

The BBC has named university people as the next three Reith lecturers.

The 1975 lecturer will be Professor Daniel Boorstin, of the Smithsonian Institution in Washington. He will be followed by Dr Colin Blakemore, the Cambridge scientist and speaker at the Reith lectures in 1977 Lord Boyle, the vice-chancellor of Leeds University, will speak.

Professor Boorstin is probably best known in this country for his book, *The Liar*, a study of how the modern system of mass communication actually creates events and personalities.

A former Rhodes scholar, Professor Boorstin has taught at Cambridge University as an historian.

The 1976 lecturer Dr Colin Blakemore, of Cambridge University, is the youngest Reith lecturer ever. He is a fellow of Churchill College and has become known for his physiological and philosophical study of perception and the mind.

Lord Boyle of Handsworth is one of higher education's hardy warriors, having been Minister of Education before coming to Leeds in 1970. At present he chairs a

salary review body looking at the remuneration of "top" people, higher civil servants and judges, but not professors and vice-chancellors.

The BBC has announced the names so far in advance to give the speakers ample time for research and preparation. Professor Boorstin's title will be "America and the World Experience" and the lecture series which begins in the autumn will coincide with the start of the bicentenary celebrations in the United States.

● The BBC has supplied the academic world with another intellectual stimulus this week in the shape of Mr Huw Wheldon who has been appointed chairman of the Council of governors of the London School of Economics.

Mr Wheldon, who is managing director of BBC television, is a former student of the LSE and was elected an honorary fellow four years ago. He was well known as presented of Monitor, one of the medium's most successful forays into presenting the arts to a wide audience. He succeeds the late Sir Morris Fahn in the position.

Course compares East and West

Original studies may now be taken as part of the BA honours programme at Huddersfield Polytechnic.

The course, which concentrates on China and Japan, is based on the geography and history of the countries and aims to explore the main differences and similarities between Eastern and Western societies.

Questions that might be raised are whether Japanese feudalism can be equated with the Western system, or the inevitability of China's becoming a Communist state.

Topics include Chinese expansion in South East Asia, the origins of Japanese aggression and its role in the second world war, the cultural revolution in China and the Sino-Soviet split.

The course comprises a third of a degree.

'Give equal pay to academics abroad'

Academics in teaching of research posts abroad should have the same salary, promotion prospects and leave as the host country would give its own lecturers, the Council of Europe suggests in its final recommendations on the position of university teachers and research workers abroad.

It recommends that lecturers taking foreign posts should have the same level of qualification required for lecturers of the host country, but not necessarily that country's own degree.

In all countries it should be possible for a foreign member of staff to have permanent status. Short-term contracts should be from six months to two years.

Either the home or host country should agree to be responsible for the lecturer's social security. Time abroad should be counted in some way as time at home as regards pension rights, salary levels and seniority.

Boost for Bucks law licence

The Advisory Committee on Legal Education has said the Law Society and the Bar Council should accept the licence of the University College of Buckingham as equivalent to a first degree. The licence, granted in two years' study, should earn the same exemption from the professional legal qualifications as other first degrees.

Medical dean honoured

Omitted from last week's list of those given awards in the Birthday Honours was Mr James Gordon, dean of the Royal Free Hospital School of Medicine, who became a Dame of the British Empire.

THES features editor

Mr David Dickson, until recently senior lecturer in science at the University of Manchester, has been appointed features editor of the Times Higher Education Supplement. He will have particular responsibility for developing new pages devoted to the consideration of academic issues. Dr Alan Cant, deputy editor, will be responsible for science coverage.

LSE opposes post-Murray reform bill

by Laura Kaufman

The London School of Economics has stated that it was opposed to London University's plans to have a private Bill introduced in Parliament in the autumn to carry out the constitutional reforms disallowed by the Privy Council in May.

Professor Ralf Dahrendorf, director of the school, said: "The court order has empowered me to state publicly and privately that there should at least be a moratorium and a debate about what we need to do. The Bill should not go through this year."

"Previously there was a minority against, but at the academic board meeting there was not one dissenting voice. It does not make sense for the university to press ahead against such opposition. The LSE is unhappy about it, and there has been a great deal of rethinking in most colleges."

"I expect there to be a moratorium. I think there is a widely held view that if the Bill were unopposed, one could go ahead. No one in the university wants our internal debate repeated in Parliament. Other heads of school need time for debate, for new consultation, and time to think about the real needs of the university."

The Privy Council ruled on May 19 that the university could not change four key statutes which would have made the vice-chancellor the full-time seated academic and administrative head of the uni-

versity with a possible term of office of eight years and the principal responsible in the vice-chancellor. It said that the changes were an "urgent necessity" and were only disallowed by the Privy Council for technical reasons.

The university now plans to introduce a third consultative report summing up consultations on the second report, and including a draft of its proposed Bill which will be sent to all teachers by October or November. The draft Bill will probably go to schools for consultation after the next senate meeting on July 16.

Mr Peter Griffiths, secretary of the consultative committee, said on Tuesday: "We have not received any resolutions calling for a moratorium on the Bill and the college have indicated support for the Bill so far. Until we receive any resolutions, the university is still working to the November 27 deadline."

November 27 is the only date when a private Bill may be submitted to Parliament, otherwise it would have to wait another year.

Mr Griffiths continued: "The draft Bill will be put to senate on July 16 and then sent to the governing bodies of colleges. We are not expecting to make a final decision before consultation with the schools."

"There will be time for adequate consultations because the idea of a Bill was one of the basic assumptions of the second report. The Bill will only seek to get rid of the shackles of Section 4(1) of the Act."

The university argues that in the light of protests against the Murray

report its later proposals were modified, that the remit of the JCCP is under review, and that the changes are an "urgent necessity" and were only disallowed by the Privy Council for technical reasons.

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'Universities must not be whipping-boys'

by Sue Reid

Universities must not be used as the whipping boy for the failed expectations of the 1960's, Lord Boyle, vice-chancellor of Leeds University, told the Association of Educational Committees conference in Eastbourne last week.

When the universities were asked to expand at the beginning of the 1960's, the initial reaction was one of reluctance, said Lord Boyle. But when they were put on their mettle, and provided with incentives, they responded with some enthusiasm to the Government's call for expansion in numbers and this had been the trend ever since.

In spite of the very difficult time through which universities were now passing they had expressed their willingness to expand yet again to take in the huge in the 18 and 19 year old age group which would occur between now and the early 1980's.

"They now represent an enormous capital and human investment, one of the very best this country has got," Lord Boyle said. "Our country has a hard record in its attitude in capital and human investment and we must do our very best to make sure the mistakes which have been made in the other areas of national economic life are not repeated here."

It was wrong to believe that all university departments were working to staffing ratios of nine to eight and a half or anything like it. Some of the most hard pressed departments at Leeds University, where competition for entry was heaviest, had ratios of one to 13 or 14.

"Getting a more even distribution of resources is bound to take time, especially in the larger and old civic universities, and now the most Robbinsian approach is over we must beware of using the universities as a whipping boy for the

tailed expectations of the 1960's." Lord Boyle said if there was wasteful competition in higher education and if the science vacancies in the polytechnics, the situation was not the fault of the universities. The notion that polytechnics were cheaper was being steadily eroded by accumulating evidence.

He said that universities were national and not regional institutions. Some form of long term planning between universities and polytechnics might be essential, but the University Grants Committee system should be abandoned and higher education regionally administered. Their national status, along with the black grant, was one of the essential freedoms universities should defend.

Lord Boyle said he believed universities should have the freedom to offer whatever courses they wished within the limits of their resources. He defended the right of students to apply for entry to any such course.

Freedom of admission for the student, provided a place could be found and the minimum qualification was offered, was bound up inseparably with the freedom of academics in teaching and research as they thought fit. The block grant in each university and the minimal use of earmarked grants were of the most fundamental conditions of academic freedom.

Universities had something special to offer and research often had direct relevance to the world outside. Prospective students considered this aspect, the combination of subjects which could be taken and the breadth of subject-matter offered in the first years of a three year degree scheme, when deciding what university they would apply to.

Demo against Queen foiled

Students prevented fellow students from disrupting the Queen's visit to Birmingham University last week to open a century celebration.

As the Queen walked through the university grounds about 40 students, representing the cuts action group, staged a demonstration opposing the visit of the Royal visit at a time when education is faced with severe cutbacks. But their protests were quickly drowned by loud cheers and bursts of patriotic songs from the 3,000-strong crowd as the Queen stopped to talk to students along the route.

Mr Roger Haworth, chairman of the Birmingham area of NUS, was shouted down by students who felt the demonstration to be unnecessary. The Queen's visit to open the Mason College Exhibition, was the high-spot in the university's centenary celebrations. To opening the exhibition, she said: "I am proud that the university has made such an important contribution to 100 years of west midlands history."

Accompanied by the chancellor, Sir Peter Scott, and the vice-chancellor, Dr R. B. Hunter, the Queen also toured the university's sports hall and visited an exhibition in the medical school, where she examined examples of American and Russian moon rock.

Before leaving to go to Stratford-upon-Avon to open The Royal Shakespeare Theatre Centenary Garden, the Queen was presented with a pair of glass goblets, made and engraved in Stratford-upon-Avon for the university's centenary celebrations.

Birmingham's other university—the University of Aston—also had something to celebrate last week when its new library building was officially opened by Sir Joseph Hunt, Aston's first pro-chancellor from 1966-70 and now a member of the university's council.

The library, which has been in use since last April, cost over £800,000 to build, and has a total floor area of over 5,000 square metres. The building has three floors, room for 300,000 books and will eventually provide seating for 980 readers.

V-c for new Australian university appointed

Professor Frederick Jevons, professor of liberal studies in science at the University of Manchester, has been appointed the first vice-chancellor of Deakin University, the new university at Geelong, Victoria, Australia.

Professor Jevons will take up his appointment in January 1976. Deakin University will provide tertiary courses for residential and non-residential students.

OU pay cuts foreseen

by David Hencke

A large number of the 6,000 part-time staff employed as tutors and counsellors by the Open University could face pay cuts of up to £100 next year, according to the OU branch of the Association of University Teachers.

In a statement to members it says that the pay cuts, caused by the restructuring of contracts, should be countered by industrial action unless the university agree to increases in contract fees and expenses.

"Since all ill paid, exploited and discontented part-time staff is not in the best interests of the OU and its students, we believe that such action would be justified in such circumstances and would win widespread support."

The union's case is based on a comparison of a 1976 tutor-counsellor on a type B contract having 18 foundation level students with a member of staff doing similar work this year.

Assuming that, as a counsellor, he undertakes 20 sessions of two hours each, and as a tutor, 15 tutorials of one hour each, he will receive a pay cut of £113.90.

For post-foundation level tutors the per capita payment of £3.76 has been replaced by a flat rate of £50 in 1976 which will mean that if a lecturer has more than 12 students he will lose money.

The AUT is also complaining that a rise from 55p to 80p in per capita expenses does not cover the expenses and falls short of their claim of £1.

A spokesman for the OU contested the figures given by the AUT, pointing out that they did not include script fees which would amount to nearly £200. They agreed that the total in 1975 wage figures would mean a reduction for some people but added that the work load would be reduced by 20 per cent. In other cases there would be an increase.

The OU added that negotiations on new rates of pay had still to be agreed for 1976. A spokesman said that there had been 22,000 applications for the 5,300 part-time posts available in 1975.

● The Open University will have to turn away more than 35,500 out of its 52,551 applications. The OU planning committee agreed that the admission target should be cut from 20,000 to 17,000 in January which will save £420,000.

Manchester arts theatre

In a caption to a photograph of students demonstrating against uncomfortable examination conditions in the Arts Theatre at Manchester University (THE, June 13), was incorrectly stated that it was in the geography building. It is in fact in the arts building.

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Further £50,000 for small grants scheme

by David Dickson

The Nuffield Foundation has allocated a further £50,000 to its small grants scheme for undergraduate teaching in response to the large number of applications received.

The scheme, under which grants of up to £2,000 are being made available for teaching programmes in the pure and applied sciences, the arts and social studies, and in medical education, was announced in December 1974, and had initially been allocated a total of £20,000.

"We had 250 application forms printed, and thought that this would last us for a few years, but in fact we ran out of stock in the first month," Mr Tony Bacher, an assistant director of the foundation, said.

"So far, we have had over 500 requests for forms, and out of 153 submitted to us 40 awards have been made, while 43 applications are still in hand."

It was in response to the high demand that the decision to allocate an extra £50,000 to the scheme had been made by the trustees.

County seeks more control over spending

Essex County Council is to have a higher say in the way its grant in Essex University is spent. Many members consider the local community should get a direct benefit from any money the university receives from the county.

At a recent meeting of a joint committee of the council and the university representatives of the local authority argued that the £63,000 grant should be spent on improving local further and community education.

It could be spent on turning one of the campus buildings into a conference centre for local students and teachers to be used for short courses, it was said.

Until the reorganisation of local government, part of the grant to Essex University, received from the local authorities was earmarked for specific uses. The £50,000 grant from the county council was only discussed by council members in a general way.

Mr E. G. H. Alsworth, assistant county education officer, said that the county council now thought its grant should not benefit the university alone but help education in the county at large.

Costly advertising campaigns 'fail to attract students'

by Stephen Cohen

Expensively printed glossy brochures and costly advertising campaigns do nothing to attract more students to colleges, the assistant provost of City of London Polytechnic said recently.

Mr Michael Brandon-Bravo said it was a waste of time and money for colleges to produce prospectuses. They were more than likely to be just lists of academic staff and their qualifications and did not contain enough information about courses, career opportunities, lodgings and academic and social life.

National and regional newspaper advertising was largely unnoticed or ignored except in August and September. Career magazines aimed at sixth-formers were not read by them. Major careers exhibitions at a regional centre such as Olympia were a waste of money and effort and visits by college staff to schools were only of value if the speaker could deal with a wide spectrum either of institutions or courses.

"Speakers who extol the virtues of one subject in one institution are not welcome," he told the Scarborough conference of the Association of Colleges for Further and Higher Education.

Not enough thought was put into the production of prospectuses, Mr Brandon-Bravo said. Most of them were devoted to lists of names ranging from the governors to the governing staff. If lists of names were

needed it would be simpler to print them cheaply and give them to any one who wanted them.

Mr Les Adams, chairman of Doctester further and higher education subcommittee, told the conference how to get free publicity. "The City of London Polytechnic gave a wonderful example of how to use the media. No one knew of them at first and then they became a household word."

He questioned why the conference was dealing with public relations when there were more important things, such as adult education, to be concerned with.

Papers presented at the conference included one on the effect of democracy on colleges, two on business education, and one on the Loughborough settlement.

Mr Adams said that while he welcomed the Brighton report, it had created a divisive factor "between teachers and administrators."

"We've got principals, heads and deputy heads who are even getting more than our director of education," Mr Adams said. This was greeted with some cheers by the audience.

Mr Derek Weltzell, president of the Association of Teachers in Technical Institutions, said scale fees were available in schools which corresponded to senior lecturership in further education. But some colleges were not able to have their posts because of the low level of their work.—TES

Don's diary

Academic opera?

Don Giovanni? Don Pasquale? Or even Don Faldo? The very term evokes the picture of a confused and elderly gentleman posting his umbrella into a letterbox and walking back to the Athenaeum clutching his letter and muttering "I'll give the archaeological society something to think about." It is a term beloved of writers in the *Sunday Mirror* but one that is bound to make the ears of a respectable "redbrick" curl. No professor of naval architecture or surgery would like to be referred to as a "don", whatever the term really means, apart from a possible indication of embezzlement in the Spanish nobility.

University terminology is, of course, in any case bizarre, as was explained to me by a distinguished dean of Columbia University who said he was always referred to as "doctor" and not "professor" (though he was the holder of one of the most important chairs in the United States), because professors in his United States were usually small unworldly planters who played polo at night in the local town. The term "vice-chancellor" is similarly open to numerous interpretations, and the only time it has ever given me any real pleasure was when the desk clerk at New Orleans' plushiest hotel said to me on arrival "Gee! Are you never a vice-chancellor?" I don't really know what that meant but I have the vague idea that at the back of her mind she was confusing the title with that of a duke.

The backgrounds of successive generations of vice-chancellors reflect changing fashions: at one time the scene was dominated by historians and classicists; more recently there was a rash of mathematicians, and at present there is a positive eruption of lawyers, while there has always been a respectable representation of physical and applied scientists. It is difficult to escape the suspicion that the current fashion for physicians and lawyers was not entirely unrelated to the fashion for their might, prove more successful at containing student indiscipline than their colleagues from the more esoteric disciplines, but there seems to be little evidence that this has proved to be the case. The only fact that seems fairly certain is that the large multi-faculty urban universities "reorganised" in the direction of professional studies have been less prone to student troubles than some of the "golf course"

universities where the vice-chancellor is either on the staff or in London while his students organize jumbos in the union, or where he and his student officers alternate in the occupation of the administrative offices.

As anyone knows who has helped to look for a new vice-chancellor, the task is anything but easy and the appointment is not greatly sought after, at least it is greatly sought after by those men unaccustomed to hold it; as I have often said in all forms of public appointment, the most successful wars being always dragged screaming to the throne. The unpopularity of the post is not difficult to explain: it combines considerable responsibility with a minimum of power, and indeed it is not surprising that the man who has organized a successful university department, has built up an international reputation or has had the pleasure of training a few generations of successful disciples, should find it tiresome in exchange the role of a performing star for the role of a scene shifter whose main function is to set the stage for the performances of his colleagues. It would be unkindly flattery to compare his function with that of Sir Thomas Becket, but in a second class touring opera company, but the analogy is sometimes difficult to resist, especially if some of the voices are more cracked than their proud possessors imagine.

However, the fact remains that the present generation of vice-chancellors comprises some figures of distinction who have abandoned very successful academic or political careers to undertake such employment. They include fellows of the Royal Society and holders of chairs at major universities, as well as teachers and writers of wit and distinction. Why on earth do they take up such an unenviable chore? The main reason, I suspect, is that the main reason for the "top cat" is the fact that the other possible appointments were even worse, and this has certainly applied in a few instances known to the writer. What can doubt the fact that the man who sits out to be a vice-chancellor should be regarded with suspicion—and usually is.

Not that the appointment is without its rewards: the most important of those is that it opens the door to a range of personal and

Reflections of a vice-chancellor

social contacts outside the strictly academic and professional fields, and to those who do not appreciate how little power and influence the vice-chancellor really wields it is any rate a humbling experience. Very occasionally it is possible for the vice-chancellor to influence a vital decision or to push through an important appointment, but this is a limited role. Indeed the writer has not infrequently nurtured an uneasy suspicion that, as chairman of an appointing committee, his support for a particular candidate has been the deciding factor against the applicant's success.

Of course the faculties vary and demand very different handling. For many years the faculty of medicine in most provincial universities has been virtually autonomous, and even today it exerts a controlling influence in its own appointments. However, its days of financial independence are over, and since it is one of the big spenders, it is in serious competition with similarly expensive subjects such as pure and applied science and computing. At the same time both the senate and the council of the university are influenced by the prevailing need to increase the income production of medical graduates and have not entirely escaped the rapidly fading mystique that the unworldly mind still associates with the healing professions.

Pure science is almost as expensive per capita and is infused by prima donnaes, the infatuation of whose behaviour sometimes seems to be directly proportional to their intellectual and academic distinction. It is also the scene of some splendid feuds and makes a disproportionate contribution to the vice-chancellor's involuntary psychiatric practices. The faculties are cheap and therefore popular, in that considerable student numbers can be obtained with fairly small expenditure.

As vice-chancellor I have made numerous attempts to attend meetings of the arts faculty but I have always been dissuaded by successive deans who have abandoned in their suspicion that I would find the proceedings tedious; they are greatly addicted to continual changes of curriculum and to building impassioned debates as to the propriety of substituting a canon for a comma in the regulations for the diploma in witchcraft or religious knowledge.

Belonging to a university that does not subscribe to the myth of social science but has an active if more modestly called department of social studies, I have been spared some of the excesses of which I have read in the literature of sociological learning; and indeed our social studies staff have their feet very firmly on the ground and furnish very useful

professionals to staff the monstrous and redundant social science departments of social science. The agricultural student can be identified by the strength of his grip on shaking hands in the ceremony for the conferment of degrees, which produces a curious crunching noise in the vice-chancellor's right hand followed by a faintly audible squeal from the vice of a fluster with some of the powers and tenure of a permanent dean, but I am pretty certain they would not agree with me since they are highly individualistic and delight in explaining just how little there is in common between mechanical, electrical and civil engineering.

Needless to say, the university does not indulge in the sloppiness of teaching French or German but conducts courses in French or German studies which, so far as I have been able to discover, excuse the candidate from bilingual fluency but give him an unworldly insight into the cultures of the countries involved. As in most universities the best students are found not in the arts departments (which in general seem to have a profound suspicion of creative or executive artistic activity and much prefer writing about books in actuality without them) but amongst scientists, mathematicians and medical students.



The only real don—Giovanni.

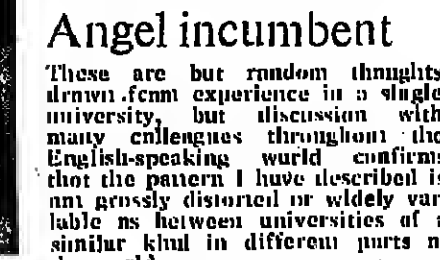
Wanted: a führer

Of economists, the less said the better. The subject lacks both scientific respectability and the respectability of the vulgar. The students are in no way interested in the subject, and the subject is in no way interested in the students. It is a ding-dong battle in which the economist (recently in the ascendancy) appears at the moment to be giving ground to the student. The student's measure of professionalism, both parties sustain the firm conviction that the other are not economists at all.

There are a few small groups of whom one sees very little. Archaeologists and geologists seem usually to be setting off somewhere named

with spades and Land-Rovers and to publish in esoteric journals. The faculty of applied science comprises a large group of anarchist engineers who give valuable lip-service to joint activities but in fact appear to pursue their several disciplines in a highly fragmentary fashion. My own suspicion is that they would benefit from the services of a fluster with some of the powers and tenure of a permanent dean, but I am pretty certain they would not agree with me since they are highly individualistic and delight in explaining just how little there is in common between mechanical, electrical and civil engineering.

When I gave up real work to become a vice-chancellor, I did so under the erroneous impression that I would enjoy three months' vacation every summer. After a year I was not so sure. From the administrator's point of view it is hardly possible to tell whether one is operating in term time or during the vacation. The students are in no way interested in the subject, and the subject is in no way interested in the students. It is a ding-dong battle in which the economist (recently in the ascendancy) appears at the moment to be giving ground to the student. The student's measure of professionalism, both parties sustain the firm conviction that the other are not economists at all.



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UK university elitism blocks EEC integration, says v-c

The highly selective nature of the British university admissions system is proving a stumbling block in aligning higher education with countries in the European Economic Community, according to Dr Freuk Thistlethwaite, vice-chancellor of the University of East Anglia.

Speaking at Ipswich School speech day he said between eight and nine per cent of 18 year-olds in Britain went to university, the lowest proportion in any western country.

Britain had one of the most selective and elitist university systems in the world and during the whole expansion period of the last 20 years only about five per cent more school leavers went to university.

To Europe the passing of the *baccalauréat* or the *abitur* entitled a pupil to enter university. For most subjects staff and student ratios were quite out of control and it was only now that in expensive subjects, such as engineering and medicine, the student quota in Europe was being related to teaching resources.

Dr Thistlethwaite praised the British university selection process as probably the most effective in the world in terms of graduate

education. Because pupils were so well selected on an examination and interview basis, so well prepared in the traditional sixth form, and because of the favourable ratio of university teachers to undergraduates first degree courses in most cases took only three years compared with four and six years elsewhere.

The failure and drop out rate of about 10 per cent was the smallest proportion of any university system in the world, except possibly Israel, he said.

Despite the population explosion of the past 20 years universities have tried to meet the demand without diluting the values of scholarship. Dr Thistlethwaite said this was a considerable achievement and our society should be proud of the universities instead of wringing about their performance.

However, he added that as a result of the headlong expansion and increased state support for students too many had drifted to the universities without any sense of purpose.

A university should represent some sort of commitment by the minority who have the intellectual interests or would value the mind stretching of a university course. Universities were still looking for talent and were in very good heart despite the huffiness they had received in the past few years, he said.

News in brief

CVCP to meet north of border

The Committee of Vice-Chancellors and Principals is to hold its next meeting in Edinburgh. It will be the first time it has met in Scotland.

A spokesman for the CVCP said this week there was no special significance in meeting in Scotland. Some meetings had always occasionally been held outside London.

Dr Hugh Pollard, principal of St Martin's College of Education, Leicester, has been presented with the Order of Vasa, an honorary Swedish equivalent to the OBE, by the Swedish Government.

The award is given to people who have made a significant contribution to Swedish life and is rarely awarded to foreigners. Dr Pollard has built up links between his college and Sweden.

Woman professor

Manchester University has appointed its first woman professor of law. She is Dr Gillian White, 39, an expert in international law and formerly a reader at the university.

Compendium renamed

The Compendium of Advanced Courses in Technical Colleges has been renamed for the 1975-76 edition. The new title is *Compendium of Advanced Courses in Colleges of Further and Higher Education*.

The Council for National Academic Awards has conferred degree status on a project of joint cooperation between Middlesex Polytechnic and the Ecole Supérieure de l'Entreprise at Reims in France. The two institutions have been working together for three years with the aim of providing the new European administrator in government and commerce with an education equally balanced between two major European countries.

The new four-year degree, developed from an initial diploma, allows equal numbers of French and British students to study together for four years, spending a two-year period in France and two years in Britain.

Lecturers will follow the same programme, and examination boards will be made up of equal numbers of French and British staff working together.

The course allows students to spend an equal amount of time in France and British industry during sandwich placements and both industrial sectors have pledged solid support and committed themselves to taking students from the course.

The programme, leading to BA European Business Administration, is on Innovation in Europe.

More news page 23

2,000 jobs placed in jeopardy

by David Hencke

The future of more than 2,000 college education lecturers will be facing redundancy.

Another teacher training college, Colchester College of Education, West Wickham is facing closure by 1979 in spite of earlier assurances by the Department of Education and Science that it would be secure until the early 1980s.

College staff were informed the day after the meeting between the Catholic Education Council and the DES discussed a proposed merger of the college with the Meria Assumpta College, in Kent.

According to Mr John Addison, a lecturer at the college, the DES had previously agreed to an academic association of the college with the Croydon College of Design and Technology. Negotiations were continuing with the Croydon education authority and proposals for a Diploma of Higher Education course were under consideration when the college was informed of the DES "suggestion" for closure.

The plans now seem certain to go ahead and another 625 places will be lost to the teacher training system by 1978.

The future of Worcester College of Education is to be considered alongside the fate of Hereford and Shrewsbury New College, Birmingham by the Hereford-Worcester authority.

A report by Mr M. J. Gifford, county education officer, shows that among the alternatives being considered by the governing body is the retention of the college as a day school for secondary and sixth form students and the closure of Worcester college.

Staff at Kingston upon Hull College of Education have signed a letter of protest to the DES because it has only been allocated 60 places for training in the whole region. The cutback in places for the present 1,500 places and reduces the size of the college by one-third.

The union has asked him to introduce new grants to cover the introduction of the induction year and in-service training for the profession.

A meeting of the Advisory Committee for the Supply and Training of Teachers last Wednesday week was asked to recommend the Government to implement the induction year and in-service training for teachers in 1976.

The committee received a report from one of its sub-committees urging the introduction of the schemes which are supported by the teacher and teacher training unions in the committee.

But the unions are concerned that the Government could believe these changes, the proposals were defended by a "strange alliance" of high and low churchmen and officials.

Members of the theology faculty are anxious to play down the conflict. The Rev Dr D. E. Nineham, warden of Keble College, said the need for some kind of change in the syllabus was agreed by all the parties. Congregation had not approved the new syllabus but the faculty put forward but to see this rejection in terms of a single principle would be to misinterpret it.

It is likely that a revised version of the syllabus will be discussed by the faculty next term and put forward to congregation again later in the year.

Is LSE Light Horse enough of a defence?



Is LSE Light Horse enough of a defence?

Any speaker who wishes to extol a quick and certain cheer from an assembly of educationists (teachers or students indifferently) need be in no doubt how to do it. The trick is simply to complain at the scandalous amounts of money being spent on defence, by contrast with what we spend on the education of our young.

One might have thought that the simple element of self-preference in such very common statements might have induced a little caution among spokesmen for education. The cry of "don't give it to them, give it to us" is hardly the highest peak of human moral perfection. And those who snipe at the "bug-buck" ration

ing the state in the function of defence which it alone can perform.

The extreme excesses of those who complain about the defence budget are those who in the 1930s made a spirited attempt to keep Britain disarmed. They had an effect, but they did not quite succeed. As it happens, we now know with considerable certainty—and we could not have known at the time—some of the consequences that would have resulted if they had.

These consequences include at the least the extinction of every man, woman and child of the half-million strong Jewish community in Britain. The point is worth making in dramatic terms to indicate that the stakes involved in the question of defence are quite different from those of the level of the student grant.

The post-war Campaign for Nuclear Disarmament fought a rather similar battle in the academic belief that if Britain were to abandon all nuclear weapons, the world would be a safer place and thus saving civilization. The British model of self-sacrifice on this question has not, of course, provoked any echoes abroad, and the only other country similarly given to ritual moods of moral posturing, namely India, is seeking nuclear weapons of its own.

Nor, indeed, is there any good reason why such a policy should have succeeded. The policy of a sovereign state is always revealing, and the obvious response to a model of self-sacrifice on the part of others is to snatch advantages while the snatching is good. The only conditions in which this would not operate would be if the country

was not a sovereign state.

There is, in other words, little room for manoeuvre between the full responsibilities of independence in a hideously dangerous world, and complete surrender to the power of another. One may well choose to be rather than dead—but the choice has costs, and is no guarantee against death.

It is true, no doubt, that under some circumstances, it might make sense to sacrifice some elements of defensive preparedness in the hope of encouraging a response from likely opponents and thus moving towards a graduated disarmament. But the only serious likely opponent shows not the slightest sign of responding; it has, on the contrary, taken all opportunities of building up a powerful navy well beyond the British level.

To cavil at British defence does, of course, make perfect sense from a purely academic point of view. It is desirable that Britain should enjoy the benefits of Soviet satellite status along with Hungary, Czechoslovakia and the rest, defence forces are on obvious impediment. The Soviet tanks which ensure the socialist purity of the Eastern European bloc can only be used in the channel, but the Soviet Navy already prowls British shores and keeps an eye on North Sea oil rigs.

But in most cases, an objection to defence, depending on principle, would seem to be attributable to a selfish, or at least human, folly which has often engaged the faculties of human beings to be excessively dependent upon experience, especially very recent experience. Such a dependence leaves them unprepared for what the future may bring.

Because they cannot imagine that anyone will embark on the horrors of another major war, they imagine both that it will not happen, and that if it does happen, a telephone call announcing surrender will avert all serious problems. It is indeed a possible view, but it is one that is not shared by those who have been through an exhausting resistance. But being conquered can be something other than a desperate expedient only to those who have a thin conception of what it really means.

Perhaps the best way of describing the kind of folly involved here is that it consists in not being able to take seriously a benefit which consists only in an inverted evil; yet such benefits are sometimes the most important there are. Thus Dr Sheila Bromner a couple of years ago gave the AUE winter council meeting the benefit of her reflections on defence in the form of the question: "weapons either create a sense of fear or become a source of pleasure—thereby being uniquely unsuitable of resources."

Weapons are a source, of course, in the same sense that the first extinguishers in most bodies have been taken seriously just away, unused and find their way to the scrapheap. But it is merely a symptom of inability to fall into the illusion that a remote danger is no danger at all. It would be no infinitely nicer world if we could live in a world where the topic was not war, but the study of a few years back.

"When the Russian tanks roll westward what defence for you and me?"

Colonel Simon's Essex Rifles? The Light Horse of the LSE?

Anon

The author is vice-chancellor of a northern university.

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FE pay settlement 'a conspiracy'

The further education teachers' pay settlement was a conspiracy against the polytechnics, according to the Association of Polytechnic Teachers. In a prepared statement the APT, which represents about 2,500 teachers in polytechnics, said the settlement agreed to by the education negotiating committees discriminated in favour of teachers in technical colleges, and those doing work below degree level.

The settlement is said to have resurrected the differential between university and polytechnic teachers by giving the latter only half the percentage rise of those at the heart of the further education scale.

By October it is expected that the gap between university and polytechnic salaries will have widened in favour of universities to perhaps £1,000 on the senior scale. There will then be no pretence of the broad parity promised by the Secretary of State.

The APT said that the Burnham negotiating machinery had been shown to be totally inappropriate for the public sector of higher education, including the polytechnics and colleges of education.

Degree status for Euro-link course

The Council for National Academic Awards has conferred degree status on a project of joint cooperation between Middlesex Polytechnic and the Ecole Supérieure de l'Entreprise at Reims in France. The two institutions have been working together for three years with the aim of providing the new European administrator in government and commerce with an education equally balanced between two major European countries.

The new four-year degree, developed from an initial diploma, allows equal numbers of French and British students to study together for four years, spending a two-year period in France and two years in Britain.

Lecturers will follow the same programme, and examination boards will be made up of equal numbers of French and British staff working together.

The course allows students to spend an equal amount of time in France and British industry during sandwich placements and both industrial sectors have pledged solid support and committed themselves to taking students from the course.

The programme, leading to BA European Business Administration, is on Innovation in Europe.

Economic security points to survival

If economy is the key to survival Bristol Polytechnic will have a secure future.

Since its conception at a time of plenty first the Bristol and now the Avon education authorities have kept a tight rein on its expenditure which has not always pleased academic staff or students.

Now facing a lean period the polytechnic is well placed to survive having little of the costly fat of empty departments or under-utilized workshops which is prevalent at a number of other places.

The polytechnic is also reaching an interesting stage in its development. It is just about to begin occupying a "greenfield" site at Coldharbour Lane or "Colditz" as some students call it.

This site on the edge of Bristol, and once part of the domed Severnside town project, should become a focal centre of the polytechnic—if enough money is available to provide the final phases of development, equipment and the administrative services.

The question mark hanging over the institution is whether enough resources will be available. So far only two units, the student village which houses 250 students, and the management residential centre, are in use. In September the first major building which will include accounting and finance, business studies, economics and social science, law and languages will be handed over. The new building will also include a modern library.

Next year it is hoped that the mathematics and science building should be completed and plans have been approved for the first part of a third phase of buildings, including the students' union.

After this point the building programme of the polytechnic seems to disappear into the mists of time. The rest of the third phase should appear in the Department of Education and Science's approval list next year which will allow an engineering building and sports facilities. After this it should be some time before phases four and five—which cover new residences, town and country planning, a library extension, construction, humanities and surveying—are built.

The local authority, while committed to these developments, now admits that phases six and seven—more study bedrooms and an art and design building—are unlikely to be built. In the case of art and design, the department, formerly the West of England School of Art, is well catered for in a new building in another part of the city.

Meanwhile, the polytechnic has to continue to cope with the problems of a multi-site institution, and accept that economies in staffing, equipment and even repairs and minor works programmes will become a daily concern.

Academically, however, the polytechnic appears to be making the best of difficult circumstances. When the polytechnic was designed, it lost a large percentage of its high level work to Bath University. It had to build up many degree courses from scratch and also develop its departments to offer a wide range of courses.

The success of the polytechnic's development programme has been helped by the flexibility of departmental attitudes, the relative strength of departments and a tradition that "servicing" on joint degrees is not a secondary activity to be endured because a department is unable to offer its own degree course.

The result is that the polytechnic enjoys a 1.0 average staff: student ratio with the worst ratio (in economic terms) a healthy 1.5.



Two views of Bristol Polytechnic's new site: (above) the faculty of business studies and library, (below) a student village.

the polytechnic's departments are large and cover a wide range of subjects. Staff appear to be satisfied with developments and an internal system of "organic democracy" appears to offer opportunities for new academic ideas to get off the ground.

Mr Jim Harris, the polytechnic librarian, summed up the situation: "What I like about working in Bristol Polytechnic is that when you put up an idea, they are prepared to consider it and find the money if possible. One does not have to wait for someone's permission before one can spend a few pounds."

This attitude pervades the staff when, even without necessarily going through their own department, put forward plans for new courses. If these can be justified in terms of resources, they can become part of the academic programme. The freedom for academic development, however, contrasts with the rather large number of petty controls which seem to beset the administration.

Students complain of repairs taking months or not even taking place at all of blocked lavatories, of special permission required to repair door handles and of petty controls exercised by local authority bureaucrats in personnel staffing. One administrator, who used to

inflexibility in staffing and poor salaries in relation to other local authority work and at Bristol University.

The local authority, however, feels that its own policy has benefited the polytechnic. Mr Derrick Williams, chief education officer, said: "Flexibility between the local authority and the polytechnic can be healthy. It helps the polytechnic to scrutinise its planning policy and financial programme."

Mr Norman Kece, Conservative chairman of the Avon Education Committee, said that the polytechnic had probably benefited by the local authority's stringent financial policy, since it was now in a good position to survive in a cost-conscious world. The local authority had no intention of backing down on its commitment to develop the polytechnic, although it further cuts in public spending were envisaged by the Government, the polytechnic would take its proportionate share.

The polytechnic's new director, Dr William Birch, a former professor at Leeds University, will face a difficult job in steering the polytechnic towards expansion in the future. But given that he can maintain its good academic reputation in face of an adverse economic crisis the prospects for Bristol are not too

The sociological Noah preaching honesty in an ark of rejects

Alvin Gouldner is the American prophet of the coming crisis in western sociology. Tall, with striking red hair, he is well known as sociological gadfly for his magisterial pronouncements on the state of the discipline. There is something surprisingly Old Testament about a man most of whose friends would be found so the New Left.

The biblical metaphor is Professor Gouldner's own. He says he is a latter day Noah striving for his academic post in Holland to hard together the rejects and deviants from the sociological establishment into the ark of the new sociology. He edits *Theory and Society*. He stands apart from his former colleagues in the sociology departments in the United States, judicious and critical, encouraged by Kant, speaking for the "ecumenical intellect" and not in the least embarrassed that sociology has not yet found its Mount Ararat.

Before he scaled his magic mountain Professor Gouldner was best known for his early work on industrial bureaucracy and on imaginative discussion of the origins of social thought in a book called *Enter Plato*. What marked him out from his generation was the growing emphasis in his writing on the need for personal honesty on the part of the sociologist and for "reflexivity" on the part of the discipline. Sociology, in other words, needed to be honest about itself.

But Professor Gouldner's preoccupation with his own biography had led some critics to accuse him of being too interested in himself to be much of a social thinker. He provides the ammunition for such charges. He is a pungent prose writer and in one of his books he wrote of "swimming down into the lily waters of the self". Professor Tom Bottomore of Sussex University wrote sharply recently of his "narcissism" and turning of public issues into personal problems.

In some ways Professor Gouldner's biography is a good map to the progress of modern sociology. After some years of "footlogging in the empirical dustbowl" in the United States—again his own colourful phrase—he became associated, together with Irving Louis Horowitz, whom he had brought to the Washington University, St Louis with the radical fringe in American sociology, elevated somewhere between C. Wright Mills and Herbert Marcuse.

Professor Gouldner's first degree was in economics and mathematics and he still keeps faith with empirical work. For all the critical stance, he says, he has no wish to train students to kick a computer console every time they pass one.

At a recent conference in Amsterdam he lost patience with a representative of one of the new schools in sociology that has virtually abandoned sociology at the real world for the sake of abstract methodological discussions.

He told him: "It doesn't matter to you what the topic is, the important thing is to flash it and unspool it and go back to talk about analysis."

"You are the oldest fashioned sort of methodological reject that I end up being greatly bored with. When I was a graduate student I said to Lazareff I would like to study trade unions. He asked briefly what were my assumptions and methods, said goodbye, and I went out to study them."

Professor Gouldner spent time in the middle part of his career on some of the intellectual problems posed by Professor Talcott Parsons who is said to be one of the great conservative influences. Gouldner wrote a well known paper on "reciprocity" in the theory of exchanges between two social units and the rules underlying them.

By the 1960s his radical stance was apparent. In another important paper called "Anti-Mutuum", he attacked the idea of sociology being free from the values of the class investigator. The groundwork for his work on the strains and stresses in modern sociology was being laid.

The coming crisis in Western Sociology made Professor Gouldner's name as an international figure and achieved an immediate figure of prominence in the United States. It

styles: "Social theorists today talk a dissonant, crumbling social matrix of paralyzed urban centres and battered campuses. Some put cotton in their ears, but the bodies still feel the shock waves. There is no exaggeration to say that the theorist today within the sound of guns. The older order has the pick of a hundred rebellions thrust into its hide."

The book, published in 1970, contains a discussion of recent social thought, including a sympathetic though critical account of Talcott Parsons and what some people took as the first serious placing of developments like "ethnomethodology". It concluded that the dominant sociology in the west would somehow marry with the revisionist sociology beginning to be taught in the eastern block. This was inadequate and Gouldner contrasted it to "reflexive" sociology which included history and philosophical anthropology and reared on a somewhat vague notion of the honest man.

The book was, he says, a "political act" trying to create space for the new tendencies, the new possibilities of sociology that were being stifled by traditionalist orthodoxy. On the other hand, the German philosopher Hans-Georg Gadamer, seeing it as a work in the sociology of knowledge and simply as a intellectual document.

Professor Gouldner encountered Marx as an undergraduate and became personally acquainted with members of the Frankfurt school. He was critical of Marx's theory of history, but he was sympathetic to the Frankfurt school's own intellectual rapprochement with Marxism. He has come late in life to the la at present working on a magnum opus on Marxism which many sociologists are looking forward to with enthusiasm.

The *Journal of Theory and Society*, published in English by Elsevier at Amsterdam, is intended to be a kind of free market for new and diverse ideas. Professor Gouldner's laboratory at the University of Amsterdam is Professor David Phillips, another American expatriate who spoke, of the need to fight abstract tendencies in the journal.

Professor Gouldner says: "It takes in all sectors of the intellectual shunt neighbourhood. This is the pulse behind it was to be a kind of umbrella to prevent sectarian narrowness and discourage the capitalism of competing new ideas."

The European climate is more philosophical than the American and Professor Gouldner says he came to Amsterdam like a medieval wandering scholar attracted by the new possibilities offered in a different setting. Professor Phillips, a kind of Sancho Panza in his blunt suspicion of the pretensions of new theories, said their movement from America was more of a political act. Both are little unenthusiastic about Dutch higher education.

So Professor Gouldner stands above the international maelstrom of competing theories, an impressive radical thought. But the whole synthesis will not come, he says, from taking an equal bit from each theory, from eviscerating it with his two cents' worth. It will not come from within sociology alone; either *Theory and Society* stands for being open to movements in other fields and disciplines.

But the rock of reason on which Professor Gouldner stands is itself and he is the first to admit this. On the one side, reason in the Kantian sense has its limits. At a certain point, all the ideas and theories have to encounter the world, either through experiment or politics.

On the other side, sociology embodies reason, or should. Professor Gouldner's Noah's Ark is a reasonable vessel and he is not a dogmatic ideologue. He cannot see that establishment sociology still contains quite a few "rational" ideas which his mariners might pick up and get. Those of us who dry land might be forgiven for asking whether in the last analysis the European crisis will outlast the warfare between the old-style American ship he has left behind.

Uses and abuses of project work

When discussing projects generally, there is little point in trying to describe them in terms of practical activities; for not only will the activities vary from subject to subject but so will ideas on what is practical and what is not. A more useful alternative is to consider the expectations normally attached to a student's performance which can be identified by two broad categories of aims.

The first comprises what might loosely be termed subject related aims. Students would, for instance, be expected to demonstrate a knowledge of concepts and principles, of basic manipulative skills and of specific techniques and methodologies in problem solving, all related to a particular discipline.

The second category extends beyond the subject matter to more general educational and social aims. Included here would be the need to demonstrate higher level problem solving skills (analysing, synthesising, etc); creativity and originality; the capacity to accept responsibility; the ability to plan and execute a programme of work; and to communicate well; to work with others; and personal qualities such as foresight, initiative, adaptability and perseverance.

Although subject related aims may still predominate, particularly in some science and engineering courses, there is evidence of a growing trend which lays more stress on broader educational and social aims. There are various reasons for this. Subject related knowledge and skills can normally be taught in other ways—through lectures, seminars, tutorials and laboratory courses, programmed instruction, and so forth.

The project as an alternative is often regarded as efficient and more motivating than too much depth in a course. It is also seen as a means of broadening content coverage. In addition, graduates are sometimes obliged to work in fields unrelated to their qualifications and a broader education may be demanded by some employers. Moreover, broader educational aims appear to provide a much sounder basis for developing attitudes towards learning appropriate for "continuing" education: an ability and desire to learn is acquired rather than competence in a basic discipline.

Now if we accept that projects are valuable, and their growing popularity seems to suggest that they are, and if we also accept that for many teachers and students their value lies beyond the acquisition of subject related facts and skills, three important questions arise, three which must be asked if projects are to be used as a means of achieving certain desired qualities, or if it is an opportunity for pre-empting them, or if it is basically a means of assessing them. If it is concerned with acquisition, then what evidence is there that it does, in fact help students. If it is concerned with practice, then what happens to those who have not developed the skills with which to practise, and if it is concerned with assessment, are we really assessing something, or are we just out to develop during the course?

One argument is that, in many cases, all the project does is to present the opportunity for the already more independently minded, creative or research orientated students to exhibit certain inherent or accidentally acquired characteristics. This has led some teachers to perceive project work not as an isolated activity, but as the encephalisation of several aspects of the course which have been deliberately created and directed with this end in view.

Teachers are also looking

inwards industry and the local community to provide the "problems". Links with industry are not new as the technological universities and polytechnics have already shown but other institutions are seeking similar outlets. University of Wales, Cardiff, for example, has recently set up an industrial centre to offer advice on waste recycling to firms on a consultancy basis. Students from several departments will find this opportunity for research via this centre.

Involvement in local community affairs also provides fertile ground for the development of project work. At the University of Salford a community advisory centre has recently been set up and students from environmental studies and town planning will undertake projects in local problems under its auspices.

The department of electrical engineering at Imperial College, London, has implemented a programme of projects in which students work in teams in the Greater London area on such problems as the possibilities of providing light assembly work to alleviate local unemployment, or the improvement of meals delivery services. At the University of Kent, there are plans for a mobile lab clinic manned by students which will visit outlying areas of Kent offering a service to the public.

Secondly, how should projects be used in a course? Here we encounter the breadth versus depth argument. Projects, by their very nature tend to focus on a particular issue and therefore other content is not covered. Some would maintain that it is increasingly difficult to cover essential content in the available time whereas others suggest that what can be achieved through education may be demanded by some employers. Moreover, broader educational aims appear to provide a much sounder basis for developing attitudes towards learning appropriate for "continuing" education: an ability and desire to learn is acquired rather than competence in a basic discipline.

Whatever balance is struck between project and other work there is still the problem of deciding its purpose and place within the course. Many teachers must have grappled with this question: "Is the project intended to assist the student in acquiring certain desired qualities, or is it an opportunity for pre-empting them, or is it basically a means of assessing them? If it is concerned with acquisition, then what evidence is there that it does, in fact help students. If it is concerned with practice, then what happens to those who have not developed the skills with which to practise, and if it is concerned with assessment, are we really assessing something, or are we just out to develop during the course?"

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Teachers are also looking

What kind of activities are students involved in as part of their studies? How do they learn? Beginning this month, academics who took part in the Nuffield-sponsored Science Teacher Education Project will discuss in a series of short articles the value of different kinds of resource material in supporting a more student-centred system of learning.

The first article is by Clive Sulton, School of Education, University of Leicester.

The active student

Discussions of teaching in higher education are frequently presented in terms of the value of this or that "method". Lectures may be compared with various forms of group work, and research papers are written with titles such as "Students' Reactions to Different Teaching Methods".

Yet to think about the tutor and his methods of teaching is to create a more effective contribution to the students' learning. Vocabulary reflects assumptions, and in this case it shows how much we are still influenced by the idea that the lecturer or tutor is at the centre of the stage, that he is the principal actor and it is what he does that

counts. Essentially they provide data which exercises the students' intelligence and encourages them to be more active mentally. The tutor is no longer the centre of attention and the main source of information; the responsibility for thinking and learning passes partly to the students and the tutor becomes a guide to their learning both in selecting data and in provoking and guiding their enquiry into it.

Secondly, resource materials provide vicarious experience under conditions which allow for reflection and discussion of its meaning and implications. Although students should not always have to rely on such experience, it sometimes can be superior simply because it does allow the student to look more slowly and carefully at one aspect of a problem at a time. In addition all these materials have a much greater "life" for the students; they can be examined over and over again.

What of the staff member? Is he just another resource? Perhaps so, but in that case certainly a rather versatile one. He or she chooses the material for the students and guides their study of it.

This can include asking them to criticise the item, contrast different parts of it, analyse it, take measurements from it, evaluate it, or to create answers to problems which it raises. In order to do such tasks, the tutor probably draws on his knowledge of what is pertinent and not always obvious to the beginner.

Questions, worksheets, study guides, and observation record sheets are simply analytical tools without which resources frequently have only a superficial impact. The resources materials are as important as is suggested here, then progress in university and college teaching depends on spreading awareness of their potential, and of the many different ways of using them.

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Sussex University has a "project-based" degree in molecular science.

Black colleges hit by success of integration

from Angela Stent

CAMBRIDGE, MASS. America's 120 Black colleges are facing a crisis which is the result of a paradoxical set of circumstances. The success of the integration movement in the 1960s has diminished their importance, and whereas predominantly White colleges have special minority recruiting programmes, Afro-American curricula and special efforts to find good jobs for Blacks once they graduate, the traditional Black colleges suffer from these services because being Black is nothing special there.

In recent weeks, however, several Black colleges have announced that, despite the financial crunch, they intend to stay in business, and have begun widely publicized fund drives to reassert their viability.

One Black institution which has pioneered the fund drive is Miles College. At the height of the Civil Rights Movement, Miles College, Birmingham, Alabama, was in the forefront of the integration drive. Founded 71 years ago by a Black church, the Methodist Church, it has 1,200 students and is a predominantly Black college.

It is currently suffering from the recession in the aftermath of its prominence in the 1960s when an embittered White community refused to donate money as they had before.

Now, however, local White groups have agreed to help in the fund drive; the Birmingham business community is spearheading the campaign to raise \$400,000 so that Miles College can move to new quarters and expand. The fund drive is particularly important since it signifies the renewal of an old alliance between the White and Black communities in Birmingham.

Whereas Miles caters mainly for the disadvantaged Black student, Spelman College, nicknamed the Village of the South, has traditionally educated the daughters of the nation's most prominent Black families.

Situated in a suburb of Atlanta, Georgia, it was founded in 1881 by Baptists, and is one of the country's remaining Black women's colleges (the other is Bennett College in Greensboro, North Carolina). It has a student body of 1,100 and is a liberal arts college.

Spelman faces a \$100,000 deficit for the year that has just ended, and in decline in applications it has become a victim of its own successful fight for social change. Many of its potential students have been lured away by prestigious White colleges that fund drive not have accepted them.

Spelman's \$17.7 million fund drive is directed towards improving its curriculum, and attracting better faculty. It is fortunate in that it has close historical links to the Rockefeller family, which has always been one of its mainstays of support.

Now under a Black administration for the first time, Spelman is trying to present itself as a bona fide Black institution which is relevant to the concerns of present-day Blacks, rather than a White-run finishing school for the daughters of the Black elite.

A Gallup poll shows student trend to radicalism

A Gallup poll on how the attitudes of college students have changed from their freshman to senior years has found that "the lack of knowledge and understanding of the free enterprise system is widespread".

As a result of more than 1,000 personal interviews with college students on 57 campuses, the poll discovered that "college students move sharply to the left as they advance from freshmen to senior". Most of them vote Democrat.

By a margin of two-to-one, college students in favour of the government planning stricter controls on business, and advocate the setting up of big corporations into smaller ones. They also support stricter controls of trade unions.

Affirmative action 'defaulters' face withdrawal of funds

As the debate over affirmative action and government bureaucracy inefficiency continues, the Department of Health, Education and Welfare (HEW) has warned 29 colleges that they face a possible loss of more than \$65m in federal contracts if their hiring and promotion plans do not meet affirmative action standards before June 30.

HEW's Office of Civil Rights has already told eight universities that their affirmative action programmes, which stipulate goals and timetables for the recruitment, hiring and promotion of women and minorities, are unacceptable, and they plan to send similar rejection notices to 19 more.

In addition, HEW says that it does not have enough time to evaluate the programmes of 15 other colleges before the end of the fiscal year on June 30—but they may not fall within the guidelines. The 16 include Harvard, Yale, Princeton, the University of Chicago and George Washington University.

The contracts for the 29 colleges are from six agencies, ranging from the National Cancer Institute to the Navy Department. In the past, more than \$30m have been temporarily withheld from institutions which have failed to comply with affirmative action guidelines. The Office of Civil Rights is required to review all affirmative action plans before any contract is signed. But under

California demand for teacher training drops

In a period where teachers are finding it increasingly difficult to get jobs, enrolment in teacher training courses has declined at the University of California, but risen slightly in the State University and Colleges system, according to a USC study.

The study shows that in 1972-73 there were 1,900 students preparing for a teaching credential at UC. This year the figure dropped to 1,500.

In the State University system 11,157 students were working for a teaching credential in 1972-73, compared with 11,196 in 1973-74.

The National Education Association estimated last year that only 111,000 of the 234,000 who received teaching credentials from universities and colleges were able to find jobs.

An executive order which has been a target of bitter denunciations, Part of the problem is the bureaucratic procedures that do not give the agencies enough time to review affirmative action plans, said Peter Holmes, director of the Office of Civil Rights, blames government agencies for not giving his office enough time to evaluate the colleges' plans after they had been awarded government contracts.

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Academics are 'historically left-wing'

from Frances Hill

NEW YORK American academics throughout the twentieth century have been predominantly committed to progressive, liberal or leftist politics, according to a study by Everett Carl Ladd and Seymour Martin Lipset, sponsored by the Carnegie Commission on Higher Education. The authors attribute this to the lack of a legitimate national conservative tradition.

The most successful, high-achieving, amply-rewarding faculty have the greatest inclination to support a politics of social criticism, the authors say. They also find a sharp differentiation of political view by professional field. "There is a rather neat progression from the most left of centre in the most conservative of fields to the most conservative in the most liberal of fields," they say.

Two-thirds of the faculty surveyed in the social sciences approved of the rise of student activism as an expression of social criticism. Professors Ladd and Lipset attribute this variation to the different sorts of subject matter and working conditions in different fields.

The authors analyse the ebb and flow of faculty activism, showing that it tends to peak during periods of intense polarization, such as the Vietnam war. At the height of the Vietnam war, large numbers of students, supported by many faculty, were involved in massive demonstrations. "Sharp conflict among academics characterized campus life... Closely became political arenas," they say.

Half a decade later the period of activism was over. "This change does not come as much of a surprise to those with any sense of history," the authors say. The protest of the early nineteenth century, the radical student activism of the 1960s, the Vietnam war and the era of the Great Depression were all followed by periods of moderate to low levels of campus protests, the authors say.

The Divided Academy. Professors and Politics. By Everett Carl Ladd, Jr. and Seymour Martin Lipset. Sponsored by the Carnegie Commission on Higher Education. McGraw-Hill, \$17.50.

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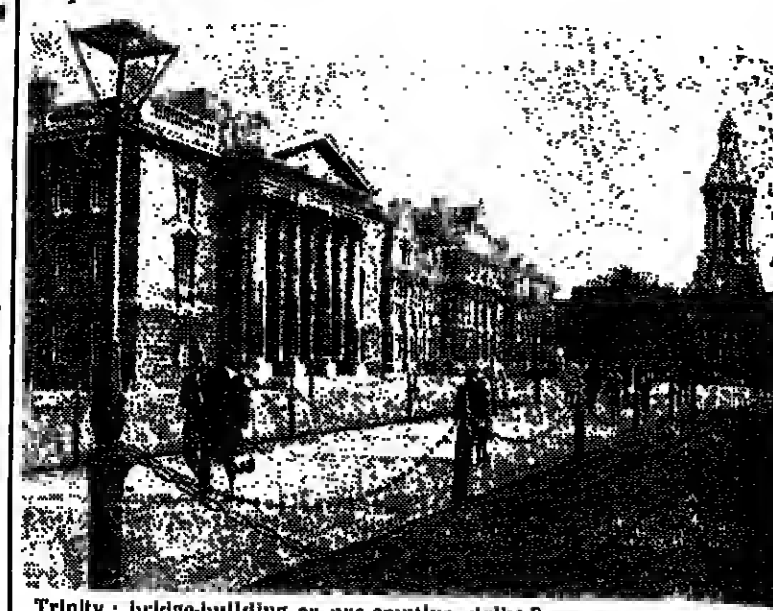
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Trinity: bridge-building or pre-emptive strike?

Trinity bids to retain engineering power base with new degree deal

from Peppy Barlow

DUBLIN Trinity College Dublin has become the first Irish university to set up a formal degree-awarding relationship with the technical sector since Mr Richard Burke, Minister for Education, announced his plans for the reorganization of higher education in December.

In doing this TCD has broken the unofficial embargo being imposed by other university institutions which have so far been reluctant to take on the validating functions envisaged for them by the Minister.

It also seems to have set the trend for the National Institute for Higher Education (NIHE), which is to be comprised of the Dublin technological colleges, to become a recognized college of TCD.

Responding to a request from the Dublin City Vocational Education Committee, the Board of TCD has agreed that students graduating from the engineering courses in Kevin Street and Bolton Street Colleges level shall be awarded a University BSc from this year. Two courses are involved—the electrical engineering course at Bolton Street and production engineering at Kevin Street.

These diploma courses have been recognized as qualifying students for postgraduate work in TCD for the past six years, and there has been considerable cooperation among the institutions in the form of sharing equipment and teaching expertise. In some sense, therefore, the awarding of degrees is simply seen as an extension of this long formal form of recognition.

Both TCD and Dublin City VEC recognize that the present arrangement between them can only be temporary, pending the decision of the Dublin City Council on the new NIHE (Dublin) which has not yet met. But it seems likely that this will present no real problem as the VEC, which put the proposal forward, and the two principals of the colleges involved, who have both welcomed the TCD move, are represented on the new Governing Body.

Whatever the sequence of events it is clear that Trinity has a special interest—namely to claw back some of their engineering function which the Minister's proposals seemed to cast into limbo when he said that the main development in University College Dublin and that TCD would receive no further money for capital development.

The motive may be fairly straightforward, the effects are not. To begin with it implies a natural progression towards the Dublin NIHE becoming a recognized college of TCD rather than UCD, a development which is bound to set the other university establishments wondering about the wisdom of refusing the validating function.

Opinion has already been expressed in National University circles that Trinity has stolen a march on them and it is understood that UCD has made unofficial approaches to another Dublin university, the College of Commerce in Rathfriland.

It would also seem to present the development of either NIHE (Dublin) or the NIHE (Limerick) as an independent university institution in the foreseeable future, a situation which will not be kindly regarded in Limerick. In the Minister's proposals there was a let-out clause which said that if the NIHEs could become independent in a number of years, they would be affiliated to their parent universities. The refusal of the universities to validate the NIHEs would thus be a self-imposed restriction.

Much more important, however, is the fact that the situation may yet again retard the development of the National Council for Educational Awards (NCEA) which has made up a significant amount of ground since the Minister stripped it of its degree-awarding function. Because of university reluctance to validate the NCEA has been given so little room to manoeuvre in the awarding of degrees and has actually validated the few degree courses in the National College of Physical Education.

Even more central to the issue is the need to coordinate courses at third level. In this context the NCEA has drawn up proposals for developing a validating procedure in which the Council will work in conjunction with the universities. While the TCD move does not endrally eradicate this option, it sets up an alternative pattern which may undermine it. And this, in its turn, brings up the whole question of coordination.

For, while the Dublin colleges have a unique role in catering for a very wide range of courses and will presumably ensure continuity within their own institutions, the TCD arrangement does not seem to carry any inherent form of coordination with other level courses. This will be of great concern to those who are worried about the subordinate position of the Regional Technical Colleges.

JOHANNESBURG In its sixth and final report the Le Grange (formerly Schlebusch) Commission has fired a parting shot at the University Christian Movement, one of the four organizations, including the National Union of South African Students, whose activities the commission has been investigating over the past three years.

The UCM voluntarily disbanded itself shortly after the commission was appointed and most of its office-bearers have left the country. The commission's report, signed by all 10 members of Parliament, said it would serve no practical purpose to make any recommendations in the circumstances.

Nevertheless, it was felt that the public interest, the aims and activities of the movement should be exposed, and that its associations with other organizations should be made known. The report also sought to undermine and overthrow the existing order in South Africa.

Describing the UCM as neither a Christian nor a university movement, the commission report gave a detailed account of "wild parties" and "multiracial orgies" sponsored by the UCM at which Whites were said to have "debased" themselves "in the mistaken belief that this would impress the Non-Whites".

The commission said that "in all its activities and purposes" the UCM was a member of the World Students Christian Federation which, the report declared, had a Marxist bent and sought to overthrow the existing order in South Africa.

Commission urges major cutbacks in universities

from John Kirkaldy

SYDNEY

The report of the Universities Commission may prove to be one of the most controversial documents in the recent Australian education: it recommends the cancellation of three proposed universities and the cutting back of expenditure to \$A1,781m (£1,047m).

The report, which sets out guidelines and priorities for universities to the next three years, is in stark contrast to the recent reports of the commissions on schools and advanced education, which urge increases in government spending of up to 60 per cent. Although the Universities Commission is only an advisory body, there seems every indication that Parliament will approve most of its suggestions.

The report predicts that the percentage of the 17-24 age group participating in advanced education will rise from 17.2 per cent in 1975 to about 23 per cent in 1990. But it provides for university numbers to rise by only 16,900 (13.8 per cent) from 149,600 in 1975 to 166,500 in 1978.

The report recommends the founding of only one new university in the next three years: this will be the Deakin University at Geelong in Victoria.

This will have 3,200 students by 1979 and will have substantial residential accommodation to take the overflow of Melbourne's three existing universities.

The three proposed universities that the report does not wish to be allowed to start in the next three years, despite state approval, are Albany-Wodonga (NSW-Victoria), Marathuri University at Campbelltown (NSW) and a second university in Canberra (ACT).

The Albany-Wodonga University has been agreed to by both states, but the federal government has not approved. The recent Karmal report on the possibility of an Open University in Australia recommended that this university should have a crucial role in the future and it was an important factor in their decision not to recommend the other two universities.

The report also suggests expansion. It recommends that many medical and dental schools should have increased grants and two new medical schools should be established at Newcastle University (NSW) and James Cook University at Townsville (Queensland). The programme includes \$A21,200,000 for new buildings at Newcastle and \$A3,900,000 for recurrent expenditure at hospitals.

The report would like all medical schools to establish departments of community health practice. The biggest growth area at the moment in Australian university education is in the health sciences. There has been a 50 per cent rise at the universities of New England, Macquarie (NSW) and Queensland. The report would like to encourage the breakdown of all barriers to university education by increasing the numbers of external students, improving services for external and part-time students and fostering development in continuing education at universities.

The report will obviously not be popular in some university quarters and the government to revise some of its suggestions. This is particularly important as the federal government has provided all funds for universities in Australia since 1974, although the states retain constitutional responsibility.

A New South Wales government committee has recommended that Meritour, the state university open in 1981 and that it could grow to an enrolment of 2,100 by 1985. The commission, however, states that a university with fewer than 4,000 is not viable in Australia. A college of advanced education would be more appropriate in the area, the report suggests.

The commission says that a second university in Canberra is not justified. This will displease the Australian National University which has said it is anxious to cut enrolment. The report concludes that the ANU

South Africa

Christian movement accused of 'Marxist bent'

from Louis Hotz

JOHANNESBURG In its sixth and final report the Le Grange (formerly Schlebusch) Commission has fired a parting shot at the University Christian Movement, one of the four organizations, including the National Union of South African Students, whose activities the commission has been investigating over the past three years.

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Students get major new grants deal

from George Morgan

NICE

More and bigger grants have been announced by Jean-Pierre Soisson, Secretary of State for Universities, as part of a package deal intended to relieve hardship among less fortunate students and to ensure a fairer distribution of state funds in the field of student welfare.

From October all grants will be increased by 603frs (€7). This means increases of up to 25 per cent for smaller grants and at least 10 per cent for bigger post-graduate awards. State grants will now range from E341 to E775. In all, the smallest state awards have been increased by 57 per cent since M Soisson came to office in June last year.

In addition, 3,000 new grants are to be awarded. This will bring the total number of grants in France to almost 121,000. One student in six will benefit from direct state assistance. Half the new awards are to be made to third-cycle doctorate students. Special grants will also be made available in the experimental (research) training centres due to open in the coming months for higher education rather than fixing the supply according to society's needs.

One major question regarding U68 still remains, however, as the government has yet to propose the means of selecting members for the regional boards which will be responsible for distributing funds for local and special courses and overseeing research activities in their areas.

The Act provides for roughly two-thirds of the board members to be representatives of public interests and one-third recruited from within higher education. Part of the opposition by the three smallest parties in the Riksdag was based on the fear that the more numerous Social Democrats and the trade unions would gain greater influence over educational planning by becoming the major grouping on the boards.

One central and six regional organizing committees have been set up to implement the reforms, the main part of which is expected to be put into effect as from July 1, 1977.

Unexpectedly, M Soisson has decided to increase the state subsidy to university residence from 13 Frs to 36 Frs a month and per room. At the same time he has "unfroze" old university rents while promising that increases will not eat up the benefits of the additional state award. In practice, this means that the best off students will no longer pay substantially more for their accommodation while the poorer students living on a grant will have slightly more cash to spare.

A special department with responsibility for student welfare has also been set up within the ministry. It will deal principally with problems relating to medical facilities, housing, and sports and cultural amenities.

Minister turns down selection

Plans to reorganize the French primary and secondary system have gone one step further as the Bill presented by M René Haby, Education Minister, has been approved by the National Assembly.

The revised code which simplified text gave rise to hostile criticism during the three-day debate. Opposition members, following the line already adopted by teachers' organizations and trade unions, attacked the Bill's lack of substance and vague wording. Pointing out that the present amount of money for the Ministry of Education was 1,700 billion francs, they said: "This is a very small sum."

Much of the detail of reform, including plans for teacher training and university entry, will be published later in the form of decrees and ministerial orders.

In the course of the debate M Jean-Pierre Soisson, Secretary of State for Universities, outlined future arrangements in his field. There was to be no policy of selection, he said. A few universities would be authorized to raise special requirements in the minimum qualifications would be refused admission to higher education.

M Soisson is relying on a policy of subject orientation in the final year at lycée to avoid the current massive drop-out rate in the early stages of university studies. In future, lycéens will be required to choose one of four basic options: science and mathematics, literature and languages, economics, and law. Successful bacheliers will then go on to the corresponding area of higher education.

The whole scheme is additionally being subsidized by the two DPs. A month per student which will cost the government DM 65m during 1976. Altogether the financial obligations for 1976 arising from the new students health insurance are calculated to be in the order of DM 75m. Virtually all of it will be borne by the central government.

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U68 goes through after seven years of controversy

from Mike Duckenfield

STOCKHOLM

The U68 and adult education reforms have been passed by Parliament three months ago (THESE March 14 and April 11) have been approved with only minor modifications immediately prior to the start of the fourth and a half month summer recess.

The U68 Act, which has been seven years in the realization, follows modified proposals which came out of a special parliamentary review which assessed university and student opinion on the original report last year.

LETTERS TO THE EDITOR

AUT and salary negotiations

Facts before the rout

College of education staff could be forgiven for thinking that the Government's attitude towards their future has taken a more favourable turn in the past few months.

Over the past two years they have had to face an increasingly insecure future without being given any of the pertinent facts on a rapidly deteriorating situation. The cuts in teacher training, which started as a manageable reduction that could be absorbed into new developments in the liberal arts and sciences, now look like turning into a rout with little of the money available to start the new courses which should have saved most of the 11,000 jobs in the 155 teacher training institutions. At the latest count 2,450 would disappear by 1981.

The blizzard combination of a grave economic crisis and a rapidly falling birthrate has shrewdly exacerbated the situation, but the consequences of reconversion appear to be consistently played down by the Government.

At the latest count it appears that the number of college closures, instead of being confined to a mere eight, is now rapidly rising to between 30 and 45, nearly a third of the original institutions. If the Government does not step publicly, as it has indicated privately, to service and induction training is threatened this will add to the problems of the colleges.

What is clear is that the Government is being remarkably coy about the inevitable outcome of its policy which could leave large areas of the country with only limited access to teacher training facilities. In spite of considerable private pressure by college leaders the Government has steadfastly refused to announce a limit to the proposed closures, preferring to announce its decisions fully and in a round and piecemeal fashion.

The result is that the already dispirited lecturers are finding that their future is being steadily snatched. The latest closures mooted by the Department of Education and Science, of Darlington and Colwyn College, West Wickham, illustrate this point.

Both colleges had already been given a strong indication by the

Department that they had a severe future. In the case of Colwyn College, the staff had even the assurance of a senior civil servant that their college, provided it was prepared to develop its academic links with Crydolan College of Design and Technology, should be able to continue until 1981.

Suddenly the staff are informed that as the result of a private meeting between the DES and the Colwyn Education Council their college had been given a DES-suggested "intake" for 1976. The proposals are unexpectedly presented in the morning body at a meeting to discuss other developments and become a fait accompli before staff can even be properly consulted.

Darlington College of Education, whose fate is still in the balance, received its proposals for closure in the past after receiving previous DES letters outlining a secure future with Darlington College of Technology.

More recently there have been disturbing signs that few institutions are really safe. In spite of previous assurances, the Government's decision to refer back the future of Hereford College of Education to the local authority, while welcome as an exercise in local democracy, has had the unwelcome effect of putting at risk the future of Worcester and Sharnstone New College.

Similarly, in Huddersfield the unexplained proposal to close a polytechnic education department in a time when national policy is in vogue polytechnic and college developments together has caused confusion and worry.

The whole effect of this piecemeal, contradictory and uncoordinated policy has been to create an atmosphere of uncertainty and a sense of helplessness. In spite of a number of times already suffered, a time period of unsettling development. It also suggests that the Government appears to consider expediency above any other criteria.

The Government would be well advised to end this period of uncertainty soon. The effect of continuing this policy will only add to the atmosphere of gloom and doom which has already damaged one of the most cooperative sectors of higher education. A public statement on the future of this sector would do much to restore the reputation of the Civil Service and ministers which can only suffer by the present handling of this delicate issue.

The OU's special case

The Open University will take only 17,000 of the 52,551 potential students who applied for places next year and those lucky enough to win a place will be faced with a rise in course fees which could be as high as 60 per cent. The OU, in short, is faced with a financial crisis, which is far more serious than that facing other institutions of higher education. But there are compelling reasons why the OU is, and should be, regarded as a special case.

First, the number and consistency of applications for places indicate clearly that the OU is filling a niche in the educational service. Second, the number of places is played out at the OU compared with conventional universities. There is a comparatively modest increase in resources at the OU compared with conventional universities. Third, and most vital, the university is just beginning to realize what and how it can do best for the public.

Its earlier degree results obtained from a student population, which was not the kind of student who knew how to produce degree courses of an original nature and high quality. Now, as the statistics show,

provided by the university's Survey Research Department are beginning to show, the children of blue collar workers and blue collar workers themselves constitute an increasingly significant proportion of each year's intake.

These are the people for whom the OU was originally conceived and who, in the numbers, have in each year lessened their chances of university education. Furthermore, the OU has been established with effect having to "sell" for entry has no motivation to take OU courses. Course fees must inevitably rise although the Government's present suggestion of £40 a course—the cost is still of the order of £100 a year—should certainly be made, however, of the effect of raising fees on applications. It is more important that the Government should do what it can to protect the OU's future, for that is where the OU's future, development and prospects lie.

The financial difference between 17,000 intake and 20,000 intake is about £250,000. Much of this cost and indeed much of the university's expenses is tied up in postal charges—perhaps the best idea the Government could afford the OU would be to allow it to send its mail by air.

from Mr Edward Hughes

Sir,—I should indeed be alarmed if I were involved in negotiating about salaries were not from time to time accused of being incompetent or amateur, as Dr Heskin implies (THE, June 13) of having been out-maneuvred either by the vice-chancellors or by the DES, of having put in our claim too small or too late, or of having submitted a claim which was much too little or much too big.

Such criticisms are fair comment, and sometimes they may turn out to have been justified because in these difficult economic times both the size of a claim and its timing must be matters of judgement. We can only guess, for example, what is going on in Mr Wilson's mind now and what he will decide to do in a month's time. Sometimes we may guess wrongly.

The last Association of University Teachers' Council, however, spent a whole day on salary matters and nothing known to the negotiators was withheld from the discussion. At the end of the long debate the vast majority of council agreed to support the policy which was being recommended by the executive.

I do not think that they would have voted if they had believed with Dr Heskin that their negotiators were guilty of "duplicitous dishonesty, dilatory (and) sheer personal greed". I take some comfort from the fact that Dr Heskin is anyway prepared to forgive occasional instances of incompetence on our part.

There is, of course, much general support for his view that salary differentials within the profession should be reduced and, as you know, the matter has been discussed regularly and widely within the association over a number of years. But the real question is not whether differentials should be reduced, but how far they can be reduced without affecting adversely the salary prospects of the profession as a whole. Today's lecturers are tomorrow's professors.

What is undeniable is that in the last few years of the past few years the greatest relative hurt has been suffered by senior academics—this is not the impression you would get from reading Dr Heskin's letter.

However, as the association is now struggling a reorganisation of its salary strategy and of the effectiveness of its negotiating machinery. In December the AUT council will be able to decide whether it wishes to modify the policy which it approved a few years ago.

It will be a pity if Dr Heskin does wash his hands of the AUT and so deprives council of his advice and enthusiasm by transferring his allegiance to a body which, whatever its virtues in other areas, has absolutely no standing in the

field of university salaries. What we need from Ulster (and elsewhere) are people prepared to work as hard, as ably and as selflessly for the association and the profession as has done the AUT's current president.

Yours sincerely,
EDWARD HUGHES,
Chairman, AUT committee on salaries and grading,
University of Newcastle upon Tyne.

from Dr J. C. McGrath

Sir,—The assiduous by Dr K. J. Heskin that the AUT negotiators have passed very hard for a settlement favourable to senior academics at the expense of their lower paid colleagues is borne out by an examination of the figures. In the original memorandum submitted by the AUT to the Universities' Authority Panel last autumn the minimum point on the lecturer scale for staff with three years' postgraduate experience was £3,162; this is £284 more than the current arbitrated award. The comparable aluminium award for a senior lecturer was £5,754; £254 less than the arbitration award. (Threshold payments have been left out in calculating these figures; if included the effect of the arbitration award is equally reduced for everybody.)

In effect, this means that anyone with a PhD who is initially appointed at a senior level will receive less than the initial claim whereas all senior staff will receive more. This seems a odd result. The amount awarded is higher than our claim for an adjustment of the lecturers' scale beginning October 1974 (THE, June 6).

If the members of the executive of the AUT are serious in their intention not to discriminate in favour of one section of their membership then they should seek, in negotiating the current cost-of-living increase, to redress the imbalance. To do so they would be following the example of the Scottish schoolteachers who negotiated their post-1969 settlement to assist their junior staff at the expense of their better paid seniors.

All that in this case is that the AUT executive, for favouring the senior staff at the expense of their lower paid juniors, otherwise they would be acting as recruiting agents for the Association of Scientific, Technical and Managerial Staffs.

Yours faithfully,
J. C. McGRATH,
15 Natchez Avenue,
Glasgow, G11 7JQ.

from Professor A. H. Birch

Sir,—As a senior academic, I was quite astonished to see Dr Heskin's allegation that the AUT is dominated by senior academics and favours them over their junior colleagues in salary negotiations. I can only say that I have never noticed this bias and cannot understand why it has not been a more noticeable effect on my standard of living since 1968.

I doubt if Dr Heskin has much to say. Unless the cult of frankness and truthfulness is shared by him and indeed by his colleagues, it is not plausible. Accordingly, let us always have hypothetical cases and let truthfulness mingle with rudeness, presumably it will be so much the better for that. The canonisation of the AUT's policy of "no ifs and no buts" is a commendable and commendable "self-sufficiency" which is to be challenged.

Our career structure can be hard at this stage. It must be pointed out that a bright lecturer to be told at 33 that he is not old enough for a senior lecturership when he knows that three years later he will be old enough to be eligible for a chair.

If one wants to criticise AUT policies one would do so on a more general basis. One might say that the association is given sufficient priority to this age group. It might be argued, for instance, that the claim for senior lecturers should have the same salary scale as senior lecturers since and you cannot say that about many books. Now he has embarked upon a vast study of the evolution of the world economy over the past two centuries and this is the preliminary volume. Rostow's work has always been more noteworthy for ideas than for intensity of research, and if ever there was a subject that called for vision this is it. So to say, we get more potted history than arresting thoughts.

The problem in its most general form is why did the first breakthrough to the modern industrial system take place in western Europe? To this one then adds the complex but less fundamental question—why did it come precisely where and when it did? The best part of the book is the opening chapter where Rostow sets out his questions and establishes in a preliminary way his basic ideas of argument. From the early middle ages Europe experienced periods of expansion taking the form mostly of a growth of population, but Malthus was never far away and there were severe setbacks from time to time. He suggests that capital investment in such growth periods was for the most part designed to increase output by the same methods, not by changing production techniques. Technological advances were only sporadic. So per capita income failed to rise fast enough to escape from the population trap. He is not altogether justified in putting the emphasis in this form, though, because in some regions incomes did rise slowly, growth came from the reorganization of production, trade developed, ports and cities flourished. The point is that at the end of the eighteenth century, before experiencing substantial develop-

All the evidence indicates that the profession is moving towards a serious promotion block, and I suggest that measures to ameliorate this (possibly including the creation of a new rank of senior lecturer) are much more important than constantly agonizing about the bottom end of the lecturers' scale. Unless the financial situation improves unexpectedly, the number of people at the bottom end of the scale is in any case going to get smaller.

Yours faithfully,
A. H. BIRCH,
Professor of Political Science,
University of Exeter.

from Mr B. W. Ribbons

Sir,—Dr K. J. Heskin's presidential letter which attacks the president of the AUT and seeks to divide both the university community and the academic profession may not be worthy of a detailed reply, but I would like to say that while Dr Heskin's very observing line AUT council dominated by senior academics, my count shows that 72 members were professors, readers and senior lecturers, 110 members were lecturers and the remaining 52 included librarians, administrators and academic staff of rank not known to me.

I know of no reason to suppose that the president of the AUT is a senior academic, still less that Dr Heskin's observations or the observations reported to him. My figures are obtained from the *Cambridge University Yearbook 1974* and the list of members attending AUT council in December, 1974; the latest available.

Yours faithfully,
B. W. RIBBONS,
Glasgow University.

BOOKS

Steady build up or sudden leap?

Now It All Began: Origins of the Modern Economy
by W. W. Rostow
Methuen, £5.90 and £2.90
ISBN 0-416-55920-4 and 55930-1

Walt Whitman Rostow has been in many ways one of the most stimulating of all postwar economic historians. His work on the great cycles in the British economy in the nineteenth century, which was published soon after the end of the war, brought a new dimension of analysis to the subject. The *Stages of Economic Growth* gave it an entirely new language; subsequent research has cast serious doubt on the validity of the model he created, but economic growth has never been the same discipline since and you cannot say that about many books. Now he has embarked upon a vast study of the evolution of the world economy over the past two centuries and this is the preliminary volume. Rostow's work has always been more noteworthy for ideas than for intensity of research, and if ever there was a subject that called for vision this is it. So to say, we get more potted history than arresting thoughts.

The problem in its most general form is why did the first breakthrough to the modern industrial system take place in western Europe? To this one then adds the complex but less fundamental question—why did it come precisely where and when it did? The best part of the book is the opening chapter where Rostow sets out his questions and establishes in a preliminary way his basic ideas of argument. From the early middle ages Europe experienced periods of expansion taking the form mostly of a growth of population, but Malthus was never far away and there were severe setbacks from time to time. He suggests that capital investment in such growth periods was for the most part designed to increase output by the same methods, not by changing production techniques. Technological advances were only sporadic. So per capita income failed to rise fast enough to escape from the population trap. He is not altogether justified in putting the emphasis in this form, though, because in some regions incomes did rise slowly, growth came from the reorganization of production, trade developed, ports and cities flourished. The point is that at the end of the eighteenth century, before experiencing substantial develop-

ment, countries like France had per capita incomes much higher than those of many developing countries today. It is not just the burst through that matters but the real gradual build up over time. Rostow's rather static view of the "traditional society" has always been a much oversimplified one.

To Rostow as to others the main force in the breakthrough has been the systematic, regular and progressive application of science and technology to the production of goods and services and his problem is to show why this replaced the sporadic innovations of the pre-modern world which just lifted the ceiling of output now and then. North and Thomas in *The Rise of the Western World*, a book not exactly popular with the pundits but provocative in all that, put the emphasis differently. They treated inventions as part of the development process induced by other factors and not in themselves the main cause. Well, as long as one is not saying that these inducements were solely economic but were rooted in the state of knowledge of society and its receptiveness to change, then no great difficulty arises. North asserted that population pressure—more accurately changes in the land/labour ratio—forced institutional changes which above all gave greater protection to property rights and those in turn encouraged greater innovative activity. David Landes, too, has written of the emergence of codes of conduct with regard to property which in the west largely eliminated predatory behaviour, and gave an incentive to investment quite absent in the uncertain climate in eastern Europe for example. He put this down to the ability of those with private wealth derived from trade effectively to curb the excesses of kings.

Strangely enough Rostow ignores this line of thought almost entirely and indeed it is a serious weakness of his book that it has as little to say about the land at all despite the fact that in most parts of Europe at least three-quarters of the people earned their livings by it. In a rule of thumb he turns his back on the subject by quoting the old gamesman's play: "But it's different in the South". The trouble is that this is not funny. It was different everywhere and maybe there lies the key to our problem. There were huge variations not only in technology but in the whole arrangements of the rural social system all derived from the historical past. It is important

to remember, for example, that until transport greatly improved, the object of peasant agriculture was almost invariably to produce a sure harvest rather than a large one. Experimentation was rightly considered dangerous and the penalty of failure in great to be acceptable. If we take this into account then the problem of how it all began remains difficult but more specific than the more broad generalizations on European history would have us believe. After all, if one looks at Europe in 1914 and picks out those countries that have succeeded in the development race and those that have failed, the latter are invariably those that have not come to grips with the reorganization of rural society. The important link between agriculture and industry, now given the virtual name of proto-industrialization, Rostow lets go heaving into the fact that it was the development of advanced centres of rural industry that provided the jumping-off ground for the exploitation of power technologies later on. Exactly why they did grow up is not clear but their importance is indisputable.

The favourite broad explanation for the primacy of the west lies in emphasizing the relative value placed at different times and places on the rational approach to the manipulation of the human and material environment. The extreme example of course is Max Weber's stress on the role of the Calvinist ethic and in general if one is not in total agreement with Rostow's view that the west was over time the most successful. Landes followed up work that Weber subsequently did on non-European civilizations and emphasized that the Christian church and Judaism upheld men's aspiration towards mastery of the environment in contrast to the fantasies or obscurantism of other religions or indeed their positive contempt for material progress.

Trevor Roper's brilliant essay, "Religion, the Reformation and Social Change" said less about the advance of technology and innovation than about the shift in the dynamic centre from southern to northern Europe. The centres of European capitalism were strung along the trade route from Flanders to Italy and in the seventeenth century these old growth areas were transplanted to the north largely because of the elements in the Catholic counter-reformation which forced their individualistic entrepreneurs to leave.

This was not only a spiritual

One's high hopes for this book are quite unfulfilled. Not for the first time an economist getting away from models and generalizations and trying to write history on the broad scale has found himself a prisoner of his secondary sources. The art of welding them into a meaningful narrative of one's own is much more difficult than it looks and Rostow fails to make it. Some weeks ago Bernard Levin was asking a not dissimilar question about autism. Why did it flower so late? With uninvited modesty he declared that he had no answer. I would not for a moment suggest that Rostow should have done the same thing but his first idea of just an opening essay to his larger survey was better than the course he adopted. Then the challenging ideas would have had the stage to themselves and I guess there would have been more of them had there been no space for the recital of other people's work.

The breakdown of traditional farming

Ecology and Change: Rural Modernization in an African Community
by C. Gregory Knight
Academic Press, £7.90
ISBN 0-12-785435-5

There is a story, perhaps apocryphal, about a vigorous young field officer in Africa determined to bring about improvements in the crop growing of a semi-nomadic community. With his guide he went from place to place addressing public meetings which were always well-attended by hordes of seemingly enthusiastic men. It was some time before this young vainglorious doer for a community (the Nyiha) living in south-west Tanzania. Perhaps because he is a geographer he has taken an integrative standpoint considering the traditional way of life as a functioning system, in which all the social, economic, and technological aspects are inseparable. It is pre-

senting the status quo, as his field work reveals the growing environmental pressures resulting from population expansion and the growing demand for land to be used in cultivating cash-crops. These forces are leading to a rapid breakdown of the traditional systems and a retreat into the threat of a less balanced diet or, possibly, food shortages.

The author reveals that the Nyiha systems of agriculture are based on an impressive knowledge of the potential and limitations of the natural resource base, a legacy of innovation, where beneficial soil conservation and an essential rationality. All this contrasts with the pejorative view of African farmers typified by colonial Kenya where they were excluded from most of the cash-crop sector. From his research, the author believes the various components of the traditional systems and the forces of change, and constructs a number of basic models which form the foundations for a more sound approach to introduced change and development.

In this era of the "world food crisis", a wholehearted analysis of degradation in Africa and the stark failure of much technology transfer, some planners are facing up to the reality that there is much to be learned from the Nyiha. In the local repository of knowledge and organization which forms a basis upon which to build. But an enlightened planner who wants to see this immediately run into the perils of that works much as this one by Knight are almost unobtainable; instead of a wholehearted approach to introduced change and development.

But also a reaction against the enormous strengthening of the bureaucratic nature of society that had come about. As regards economic change Landes and Trevor Roper are clearly gradualists. They look in the kind of society in which the pressures of population, of trade, of enterprising merchants are most likely over time to achieve change. From this it is possible to argue that technology steadily advanced and from agricultural reorganization and the shift in shunting and making gains that the northern European powers used as effectively in the sixteenth century till the critical discoveries of the eighteenth century were reached, leading to an explosion of new ideas and of new ideas. Such a gradual build-up enabled the leading countries to avoid the "high level" trap that Rostow tends to put aside too easily whereby a country finds itself faced and often hobbled by having to make large discontinuities leaps in technology if further rises in productivity are to be possible—a problem certainly faced by lagging nations over the last century and only now over with external help.

Rostow looks for the starker contrast, exaggerating in my mind the extent of the leap necessary to achieve modern growth. Emphasizing the lack of innovators, he comes to the conclusion that the problem lay in the minds of the rulers of traditional societies who commanded the resources but did not conceive a permanent and regular increase of them as at all possible. The evidence for change in the two centuries to 1800 comes in a long chapter on the politics of modernity and here one experiences an overwhelming sense of disappointment. The former fertile pen is reduced to a series of straightforward accounts from well-known sources of what governments actually did in the mercantilist era. It is only at the end of this chapter that Rostow escapes from his source for a few pages the book becomes brilliantly alive. Here he argues that governments more and more began to sense that military expenses could be covered not only by maximizing revenues but by increasing output, and further that more wealth was a legitimate object of state policy for wider welfare purposes, too. He writes of the reactive nationalism caused by frequent threats of war, of nations states anxious to seek out ways to acquire new methods and policies to escape their enemies. War was costly but as technological advances led to the belief that permanent progress was possible, it helped set in motion policies which helped create the conditions for modern industrial growth. One can only wish that more specific evidence was available to sustain these sweeping claims.

The rest of the book does not take us much further with the big problem beyond the familiar argu-

supported exposition contained in this book is a model for similar studies elsewhere which should precede strategic and proposals for long-term change. The work is written with a great sense of humanity and the reader never loses sight of the fact that this is a study of people. Only once or twice does the author lapse into unnecessary jargon which is the essentially dehumanizing vehicle so beloved of most planners. But, having noted the way the author has acted upon because, in general, governments are not equipped to think in this universal way: this is the contrast between a technology, and management or administration, it would not want to fault such a study but few teachers will be able to give it the recommendation it deserves while it costs £7.90—and why did it take until 1974-75 to see the results of field work carried out in the mid-1960s?

Randall Baker

BOOKS

Metropolitan achievement

Education for National Efficiency: the Contribution of Sidney and Beatrice Webb
by E. J. T. Brennan
Athlone Press, £5.00
ISBN 0 485 11151 9

In his contribution to *Fabian Essays* in 1889 Sidney Webb showed no special interest in educational matters. Yet in the next twenty years he became the acknowledged expert on London education and played a decisive part in shaping a system which lasted until the Second World War. Through his chairmanship of the Technical Education Board of the London County Council he had ensured the development of secondary and vocational education and laid the foundations of the scholarship structure. The creation of the London School of Economics were entirely due to him and Beatrice. With R. B. Haldane he was the instigator of the reform of London University and they shared the credit for setting up the Imperial College of Science. The warring of the Webbs was also central to the passage of the controversial Tory Education Act at the beginning of the century, which led among other things to the emergence of the LCC as the largest education authority in the country. The Webbs left many legacies but their impact on modern education was perhaps the most substantial public achievement of their long and varied lives.

Mr Brennan's well planned and most useful book (perhaps it must stimulate some further much-needed studies of specific Webb interests) combines a balanced commentary on the Webb view of education with extracts from articles, Fabian tracts and extracts from their books: it thus provides an

account of their passage through the tangled educational issues of the period which was the most criticized and yet most skilful example of their talent for permeation. It shows quite clearly why, at the most active phase of their careers, the Webbs put so much effort into education. For them, the creation of a meritocratic elite was the key to national regeneration.

The Comtelist vision of a controlled and efficient social order, which left an enduring mark upon both Sidney and Beatrice, made them collectivists. The need for a caste of disinterested experts to run such a society led them into educational reform. In the early published Fabian tract *The Education of the People* and *The Way Out*, which Mr Brennan only mentions in passing, was the result of more than two years of reflecting within the Fabian Society. It was this dispute, which threatened to intensify the divisions in the society caused by the Boer War, which provides the most likely explanation of Sidney's reluctance to come out openly against the School Board at a time when he was privately manipulating the legislation which was to abolish it.

The part the Fabians played in these complex intrigues is important: it is a pity that Mr Brennan was unable to explore it more thoroughly. For Sidney considered it vital to maintain control of Fabian policy. The society, as he made plain to Edward Pease in March 1903, was the only secure base for the tricky and politically involved operation he was conducting against his own Progressive Party in London and against the vacillating Tory government.

Norman MacKenzie

Taxing problems

The English Public Revenue 1660-1688
by C. D. Chandaman
Oxford University Press, Clarendon Press, £16.50
ISBN 0 19 528268 0

This book originates in a thesis, so often cited, that at least twenty years after the Restoration the original suspicion of the Commons at the Restoration about the dangers of endowing the crown with tax-payers' resources from indirect taxation as its ordinary revenue proved justified. James received an average of £1,600,000 a year, £300,000 more than the receipts in 1663 and £400,000 more than had been promised by the Cavalier Parliament in 1661.

These increases were due to improved administration which enabled the Crown to end revenue farming and to profit from the trade expansion of the 1680s. The end of revenue farming made obvious the difference between the economic and fiscal structures of England and other European states. Professor Chandaman gives a precise and detailed account of how this came about administratively and quantifies the fiscal consequences. Administratively the most important period seems to have been those of the Treasury Commissioners of 1667-1672, apparently dominated by Downing and Clifford, and those appointed in 1679 with Laurence Hyde, Earl of Rochester, as First Lord. Denby appears as less significant at the Treasury than Rochester. Professor Chandaman raises a whole series of questions about both economic and administrative policies, which he illuminates by his attempts to reform the system of direct taxation and demonstrates how parliament and administrative experience under Charles II combined to produce the new system of 1672 and the interregnum assessment, which saw the period of real financial difficulties as from 1664 to 1670, though these difficulties were mainly caused by the Second Dutch War which the Restoration financial settlement would have been viable. Crown and Commons shared responsibility for the war, but after 1671 Charles's financial difficulties were mainly of his own making. An important element in the crisis was the Exclusion crisis, which the Exclusion bill, the crown's financial position. Professor Chandaman shows that the Commons in 1685 did not believe with reckless and trusting generosity towards James II. They merely rejected the Restoration financial

ordinary provision to pay Charles's debts and provide for the navy. Nevertheless, the original suspicion of the Commons at the Restoration about the dangers of endowing the crown with tax-payers' resources from indirect taxation as its ordinary revenue proved justified. James received an average of £1,600,000 a year, £300,000 more than the receipts in 1663 and £400,000 more than had been promised by the Cavalier Parliament in 1661.

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Comprehensive

John Locke, An Essay Concerning Human Understanding
edited by Peter H. Niddich
Oxford University Press, Clarendon Press, £15.00
ISBN 0 19 524386 3

The production of a critical edition of the *Essay* should greatly benefit Locke studies: it also marks a new beginning. Hitherto the only works of Locke to have critical editions were the *Two Treatises of Government* and the *Education of a Gentleman*. But the present book is to be the first of a whole series of critical editions of the *Works of John Locke*, with Professor Niddich as general editor.

Scholars need a complete text of the *Essay*, soundly based on the editions published or proposed by Peter Niddich and his colleagues. The only good edition of the *Essay* was Volton's *Everyman*, which is more a modernization of the fifth edition (1706). The *Essay* Press photo-reprint of the first edition is useful, but insufficient, because Locke added and altered so much right up to the fifth edition. Niddich, for reasons which he gives, makes us his copy-text the fourth edition (1700), and retains its spelling and its other formal features, while making justifiable corrections based on the other early editions. His critical apparatus, at the foot of the page, shows all the variants of the verbal variants of the material, together with the significant variants of punctuation: while the other formal variants recorded are tucked away in a separate register at the back, in order to keep the apparatus itself uncrowded and usable.

A simple but important advance is the addition of line numbers, making it possible for the first time to refer readily to the *Essay* by page and line. Such references, which can pick out particular occurrences of words, are extremely valuable. A glossary, an extremely valuable feature of the book, explains words or senses no longer current, senses that needed distinguishing and foreign words. The glossary is both accurate and informative, though doubtless the *Essay* contains more items that need explanation. The main content of the introduction is a detailed account of the printing history.

BOOKS

Polymers

Trends in Macromolecular Science
edited by Hans Georg Elias
Gordon and Breach, £5.20
ISBN 0 677 15860 2

After a decade which has seen the death, or at least the partial strangulation, of so many fundamental research laboratories it is a great pleasure to welcome a venture such as the Midland Macromolecular Institute in Michigan, a new fundamental polymer research institute, unfettered in its terms of reference and housed in an intriguing new building. To commemorate and dedicate this laboratory a number of leading polymer scientists gave lectures which are assembled in this little book.

Leaving aside the introductory froth, which includes a description of the history and function of the institute, we find first a statement by Paul J. Flory, upon whose career the seal of the Nobel Prize for chemistry has recently been set, spelling out the curious way in which the concept of macromolecular structure was for so long shunned; it is an account which should be of interest to every scientist and every science historian.

Flory also contributes an abstract of a technical lecture which appears to summarize much of his recent thinking, and many of us will regret that the full text was not included, even though we are told where to find it.

The first of the fully technical lectures, that of Overberger and Szwarc, should be compulsory reading for all chemists, and shows here how the ingenious application of polymers as reagents in the place of small molecules confers a variety of benefits on possible synthetic processes. The area with which entanglement can be attained and which products can be removed is exemplified by the well-known Merrifield synthesis of polypeptides, only obliquely referred to here. But Overberger and Szwarc cite some beautiful examples of the way in which polymers can be used to coax a reaction towards the desired outcome.

Thus cyclization can be achieved without working at almost impossibly low dilutions, and the elimination of competitive bimolecular processes. Conversely self-condensation can be eliminated or reagents can be brought into close proximity by specific binding on adjacent sites. It is here that the chemist begins to approach the enzyme in the encouragement of specific reactions. An interesting example is a reflection of the differential ease with which molecules can penetrate a polymer particle; relying on this principle, the ratio of the rates of hydrogenation for cyclo-octene and cyclohexene is as high as 2, compared with 1.0 for homogeneous reaction, and much higher differential rates are available with more dielectric substrates. This chapter contains a wealth of synthetic details, many of which have not been achieved by the common currency they are used for.

Calvin takes us on a stimulating tour of ideas covering the origin of biopolymers, the nature of the structure of proteins at all levels and their interaction with nucleic acids and with lipids. His brief discussion of the origin of the genetic code will not be universally agreed, but it is interesting to find that his chapter exists in juxtaposition with that of Overberger and Szwarc, who provide in their account evidence to support Calvin's intuitive views on selectivity of reaction rates. As an overview of biopolymers this lecture is most welcome and stimulating.

The chapters on polymers in medicine (C. Lyndon), structure-property relationships in polymers (R. H. Andrews) and mechanical fabrication of thermoplastic polymers (T. Alfrey) take us through bioengineering, mechanical properties and processing, in each case drawing attention to current concepts and where appropriate applications. Thus one covers the whole range from polymer preparation to extrusion moulding.

This is a slim volume but one which is out of all proportion to its size in value. It can usefully serve as the basis for much useful and valid propaganda on behalf of polymers, and to scientists at all levels.

Elemental

Natural Hazards: Local, National and Global
edited by Gilbert F. White
Oxford University Press, £7.50
ISBN 0 19 501756 0

Available, coastal erosion, drought, earthquake, flood, fog, frost, hail, landslide, lightning, snow, tornado, tropical cyclone, volcano and wind: there are an many natural hazards that it is hardly surprising that this splendidly produced volume should be both long and costly. By definition, no natural hazard exists apart from human adjustment to it. Human initiative and choice are always involved; floods, for example, are hazards only because mankind is tempted to occupy floodplains. At the extreme the impact may be only local (one of the few chapters concerned with Britain is a study of the effects of the flooding of the River Severn upon the lower lying parts of Shropshire). At the other extreme, the effects may be national and international even if not global; the continuing drought in the Sahel of West Africa during recent years and the tropical cyclone in coastal Bangladesh in 1970 that caused such extensive damage are good examples.

The volume contains 32 essays and its contributors cover natural scientists, social scientists (geographers, biologists and psychologists). The essays are such a comprehensive volume undoubtedly has been its editor, Gilbert White, who was a professor of geography was asking 30 years ago why people chose to occupy hazardous floodplains and what would be the effects of public action to reduce flood losses upon local land use and national economy. His interests were greatly helped by the establishment in 1963 of a man and environment commission of the International Geographical Union. This commission stimulated the research in these papers which were presented at its meeting in Calgary in 1972.

There are four principal sections in the book. The largest, consisting of a series of studies of individual and community responses to natural hazards in a wide variety of countries and cultures, with a chapter that discusses the problems involved in the use of standardized questionnaires for cross-cultural research on perception of natural hazards. Section two has two essays on decision processes and adjustment to natural hazards. The third consists of a series of national reviews for selected countries: New Zealand, North America, Japan and the USSR, and the final section includes global reviews of the three most damaging of all hazards — tropical cyclones, floods and earthquakes.

What does a volume such as this achieve? Does it help Mrs Imara of Kenya as one writer puts it, to tell her "that she lives in Ministry of Agriculture Inspected, measured, mapped, and certified high ecological potential, agro-economic zone, wheat hills, central Machakos"? And what did 254 farmers in north-eastern Tanzania really make of the questionnaire containing 170 questions?

Even in Shropshire we read that "the level of awareness of the flood hazard among floodplain inhabitants was generally low"; while citrus farmers in Florida appear to dope remarkably well with flood insurance without beginning to know about "game theory in citrus production".

But these perhaps are unworthy comments. There is no doubt that some, if not all, of these researches have resulted in practical action, for example, in Bangladesh. Perhaps part of the work is so sophisticated that it need be and sound and precision which cannot reasonably be expected in the behavioural sciences. The editor sees these contributions as a series of "loosely coordinated efforts" designed to deepen the understanding of social physical interactions and to bring the construction of a more general theory of behaviour. In extreme situations, he believes that these studies are exploratory rather than definitive and he is convinced that they provide both new understanding and practical influence. They have certainly aroused interest and continuing concern in aspects of the individual, national and their governments neglect at their peril.

Quickly!

Fast Reactions
by J. N. Bradley
Oxford University Press, Clarendon Press, £3.25
ISBN 0 19 555456 7

Professor Bradley's book starts well with a brief but lucid discussion of the role of fast reactions in chemical kinetics. The introduction suggests that the author will bridge the divide which has grown up between gas phase and solution kinetics.

Unfortunately the book fails to live up to its early promise. Fast reactions in the gas phase are treated well, but sections of solution kinetics are poorly presented and are inferior to the treatment given by Caldin and Hage in their books on fast reactions. Useful comparisons between gas phase and solution reactions are made only in the chapter on flow techniques. The reader is not helped to understand why fast bimolecular reactions are treated by different theories in the two phases, and a consideration of the "cage effect" should have been given.

The author has chosen to subdivide his book "according to the type of technique involved rather than in terms of classes of experimental behaviour. . . . To compensate for this categorization by technique illustrative examples have been selected which should provide over the complete text an overall view of recent or current interest in kinetics".

This approach works well in certain parts of the book. Shock waves are naturally well covered, and the chapters on crossed molecular beams and infrared chemiluminescence provide useful introductions to these topics. However, in other chapters the material is unbalanced, far too much space being devoted to techniques, and too little to applications and examples. For instance, the extremely important applications of relaxation techniques in biochemistry are accorded only two very general sentences without mention of a specific reaction that has been studied. The book is not up to date and this tremendously important advances in place second wave are not mentioned.

There are factual errors in the description and mathematical treatment of relaxation processes. Errors have been made in copying tabular material from other reviews, and unexplained changes of symbolism occur in the text.

A disastrous feature of the book is the publisher's insertion of footnotes cross-referencing to other volumes in the Oxford Chemistry Series. This is particularly worrying because the author's list of references is inadequate to support the text. A student wishing to learn about fast reactions in solution would have to use another source text.

D. M. Goodall

Buffers

Buffers for pH and Metal Ion Control
by D. D. Perrin and Boyd Dempsey
Chapman and Hall, £3.50
ISBN 0 412 11700 2

Most chemists and biologists at one time or other need to use solutions of known and constant hydrogen ion or metal ion activity. This laboratory manual therefore potentially of considerable value in helping together within a small compass much that the experimentalist needs to know in order to choose and set up systems suitable for his particular purpose.

The authors begin, after a very brief introduction, with a short but adequate account of the basic physical chemistry involved. Here and there throughout the book there are worked answers to problems which relate to the topics under discussion. The following short chapters on applications, limitations, and choice of new buffer systems. After discussing partially aqueous acid deuterated systems, the displacement of constant metal ion activities is discussed in 15 pages. An account of methods of reagent purification and solution in a series of chapters follows. There are 41 pages of useful tables as a reference.

Maintenance of life

Techniques and Topics in Bioinorganic Chemistry
edited by C. A. McAuliffe
Macmillan, £20.00
ISBN 0 333 16688 4

Metal ions play an important role in catalyzing reactions which are necessary for the maintenance of life in mammals, birds, insects and plants. The catalytic importance of metal ions in enzymes is emphasized by the fact that a third of all known enzymes require the presence of metal ions before they show any biochemical activity. Understanding the role of metal ions in these biological systems therefore presents a demanding challenge for biochemists and inorganic chemists. In recent years this interdisciplinary area has grown rapidly and has come to be known as bioinorganic chemistry. *Techniques and Topics in Bioinorganic Chemistry* reviews some of the important developments in this field and should be a useful introduction to research workers entering the field and lecturers preparing undergraduate courses on this topic.

The first chapter, by M. W. Makinen, underlines the important contribution made by X-ray crystallographic studies on metalloproteins. In particular it discusses the electronic and structural properties of myoglobin, haemoglobin, carboxypeptidase, carp albumin and staphylococcal nuclease. For these proteins a clear definition of the function of the metal atom has almost been attained. Unfortunately the literature has only been reviewed to the end of 1972 and therefore some important recent results on haemoglobin and related model systems are not discussed.

D. M. P. Mingos

'I back him all the way—contrary, lovable, muddled, and original thinker that he is—because of the aggressive purity of his abstract thinking'

Class, Codes and Control

BASIL BERNSTEIN

Major reviews for the third volume of Basil Bernstein's collected articles and essays. (© Brian Jackson in the *Guardian*)
The essays in this new volume sketch the effect of class relationships upon the institutionalizing of elaborated codes in the school. Bernstein discusses the changes in the moral basis of schools, and looks also at the changes in the coding of educational transmissions.

Class, Codes and Control

Volume 3: Towards a Theory of Educational Transmissions
£3.50

Class, Codes and Control

Volume 2: Applied Studies towards a Sociology of Language
£6.25

Class, Codes and Control

Volume 1: Theoretical Studies towards a Sociology of Language
Second edition £3.25

Routledge & Kegan Paul



"The Whaler", a picture taken in 1915 of an Afakah Indian; taken from "The North American Indians" by Edward Curtis who, from 1896 onwards, recorded, in over forty thousand negatives, the vanishing Indian tribes. Published by Gorlon Fraser at £4.00 and £2.30.

The author as hero

Meditations on the Hero
by Walter L. Reed
Yale University Press, £6.00
ISBN 0 300 01735 9

We talk little about "schools" of literary criticism nowadays. New Criticism, the Chicago school and the Cambridge school are part of history, and despite the challenges of Marxism and Linguistics, a consciously eclectic attitude prevails in England and America. The critical mind is calm, and most of its passion spent. Such a view will not be acceptable to everyone, but it seems to lie behind the circumspect approach of one of our few genuine contemporary schools, the school of Yale.

Walter L. Reed is an assistant professor at Yale, and his book reflects the influence and, as they say to New Haven, the "imaginative structure" of two of his senior colleagues, Geoffrey Hartman and Harold Bloom, while being based on a thesis supervised by a third, Charles Feidelson.

Yale criticism, of which this is a distinguished example, is a fusion of Anglo-Saxon formal analysis with traditional European literary history. A typical strategy is to study a literary sub-genre—Hartman's "transcription poem" or Louis Martz's "poem of meditation"—which is presented both as valuable in itself and as a key to the imaginative "structure" of the age which produced it. Such a study will modulate, with a degree of erudition and scruple which can sound uncommonly like pedantry, from empirical analysis to the explication of history as a sequence of ideal types and modes. Nor is there any doubt as to what stands highest in the Yale League of historical essays. The greater part of the Yale scholar's output could be seen as a series of notes towards the definition of that elusive term, Romanticism.

Reed's subject is that obvious though neglected figure, the Romantic hero. His chosen texts are *Wuthering Heights*, *Moby Dick*, *Lermontov's A Hero of Our Time* and Kierkegaard's *Fear and Trembling*, four excellent choices. Reed views them as forming a sub-genre of "meditations on the hero".

The hero expresses a revolt against Romantic self-consciousness; his actions are on overcompensated of alienation and a negation of the over-reflective and analytical modern mind. In effect, he is for his time rather than of it. The

Victorian churches, must involve revivification of some kind. Reed dwells on the echoes of Milton, Shakespeare and Byron in the works of Emily Bronte, Mallarmé and Lermontov, and the text from which he begins, Kierkegaard's *Fear and Trembling*, is an explicit meditation on the old testament heroism of Abraham.

Kierkegaard, whose influence is felt throughout, is relevant for other reasons. His studies of Romantic heroes are responsible for the categories into which Reed divides the subject of heroism in all the works under analysis. These are the categories of the hero's relation with his "ground", his role or historical, with his audience as personified by the meditative consciousness of the narrator, and with himself, the inherent division of self and role.

Reed presents Heathcliff in *Wuthering Heights*, for instance, not as a figure with a historical ground, a Marxist symbol of the proletariat, for example, but as an "eternal" hero. His attempt to enter history (he notes the many scenes of "breaking and entering") by means of his love for Cathy, and his acquisition of Earnshaw and Linton estates are ultimately futile. Reed also suggests parallels between the two protagonists of the novel and the two narrators, Lockwood and Nelly Dean, and speculates on the origin of Cathy's "madness" as a projection of Emily Bronte's psyche. He sees his authors as "discovering their own identity through the heroic projection, while using the figure of the meditative narrator to assuage their feeling of self-division".

This is a crude summary, and in taking the most familiar example I have done little to suggest the variations that Reed plays on his themes. This book deserves to be widely read and discussed, but which is not weakened by its being a study of the hero. The fact that all his texts belong, give or take a year, to the decade of the 1840s is attributed simply to common "literary" influences, and Reed's brief postscript on modern literature slips all too readily into the mode of reactionary Kulturkritik.

Since Romantic hero-worship was one element in the rise of Hitler, the spirit he has described is over, and the implications rather better. Modern writers see heroism in unprecedentedly corrupt and problematic light; bounce the last of the series, the "meditation on the hero" to end all such meditations, in Mann's *Dr Faustus*. It is no ill service to that great work to say that the figure of the hero is not going to lie down so gently, no matter what poet and scholarly apophthegms they are writing for him at New Haven.

Patrick Parrinder

Last week the Queen visited Birmingham University as part of the centenary celebrations. Jane Headley traces 100 years of growth

Scientific vision of a self-made man

library of functional contracts.
 Mt. Ernest Gold, CB, DSO, FR.
 who studied at Mason College from

pnyance at Livingston College, where he was
ventured as its first principal.
In the early 1960s, the original
Mason Collage building in Edmund
Street was closed down when art,
law and education were rehoused
at Edgbaston. Sadly, the ostenta-
tious mock thirteenth-century
French Gothic style red brick build-
ing, with its lofty gables and pil-
larsque turrets, which had housed
Mason Collage was demolished soon
after to make way for a new civil
library of functional construction.

Mt Ernest Gold, CB, DSO, FRSL,
who studied at Mason Collage from

Alternative prospectus

from Mr Oliver Coldecott

Sir,—Because of our recent change of address I have only just seen the letter from Mr David Carter about our publication, *The Alternative Prospectus of British Universities and Polytechnics* (THES, May 23). I do not wish to enter into a long defence of the book, and it would seem unnecessary to have to explain that production and research time inevitably means that such a book is always going to be based on "previous years" information. But I do want to say two things:

1. We are very conscious that in an enterprise of this scope a number of errors of detail are bound to creep in and we are anxious to know about them so that we can make the second edition even more useful and accurate. We would therefore welcome any helpful letters correcting matters of fact.

2. We are delighted that so many "alternative" prospectuses are being prepared at British universities and polytechnics, and our book is not intended to render these unnecessary. Nevertheless to gain a picture of the whole spectrum of the degree-

awarding institutions of England, Scotland, Wales and Northern Ireland would cost many pounds in postage and for this reason our *Alternative Prospectus* does give the prospective student an overview very much more cheaply and conveniently.

Yours faithfully,
OLIVER COLDECOTT,
King Street,
London, WC2.

from Miss Anne Shaw
Sir,—I was pleased to read in your extract from *The Alternative Prospectus* (THES, May 13) that Vicky Payne and Vivian Lipschitz describe Leeds Student as having the highest circulation of any student paper.

Sanna, the London Student Paper, has a print run of 40,000 and even while it was the newspaper of the University of London its circulation was some 18,000 which I think must be in excess of that of the Leeds publication.

Yours faithfully,
ANNE SHAW,
Secretary to the Editorial Board,
Sanna,
University of London.

Human movement

from Mr J. R. Gilchrist

Sir,—It is disappointing to see the way in which R. E. Morgan takes leave of the profession he has served so well over many years (THES, June 6). One wonders at the motives which lead to such sour tones of disillusion, to a response of artless recidivism about the inroads being made by human movement studies into the field of physical education. Not that many human movement degrees do exist anyway, since the Council for National Academic Awards, to use one example, do not give titles, like human movement, to BEd degrees.

If it is physical educationists who are universally pressing for the proliferation of degree courses, why, one asks, is it felt necessary to denigrate the views of such colleagues? Would Mr Morgan care to define more specifically what he sees as human movement without the indulgent attempt at rhetoric on "coffee studies"?

Human movement is scarcely the invention of any specific group of physical educationists. It can be seen as a generic term giving cohesion to the multifaceted aspects of man in motion, human movement, anthropokinetics, if you will. Human movement is not physical education. Physical education is one of the practical applications of human movement in an educational context.

When it is said that "human movement" programmes are found to include within their scope only certain forms of human movement, this is patently not the case. It is well known that movement studies include the whole range of physical activity and include work in other disciplines, just as a study of literature requires some knowledge of other disciplines like history, philosophy, anthropology, sociology. In this curious essay, however, limits are set quite arbitrarily upon the domain of human movement. Not only does the writer catalogue subject matter not pertinently and incompletely, he overcomes any feelings of restraint by going on to make judgement upon his own delimited area.

If movement is "prehistory" and "diffuse" it is in good company with other overburdened, diffuse subjects like philosophy, language and literature. What is the use of it? Mr Morgan asks. What is the use of literature? Are subjects to be studied only with the evaluative functions of the curriculum? If a body of knowledge exists I would have thought that anyone with enough literary aptitude and ability would be free to take it up.

From Mr Morgan's wealth of experience one hopes for a more substantial contribution to the debate. Yours faithfully,
J. R. GILCHRIST,
Dunfermline College of Physical Education,
Dunfermline.

Exam nerves

from Mr M. B. Warriss

Sir,—I was interested to read Mr Phillip Thoday's article on exam nerves (THES, June 13). I myself have seen a student faint in mid-paper. I noted the lines "examiners (except, I hope, in medicine) bent over backwards to give candidates the benefit of the doubt". Quite so. One thing worse than a mediocre surgeon is a neurotic medicare surgeon who waps his way past his examinations into a corner of his tutor's heart.

But there are a hundred other fields where incompetence could be fatal and in more than one patient/victim or a time-engineering, pharmacy, food production. Granted one "BSc (Just)" may do very little harm wherever he goes. But a large number of them devalue the qualifications of their more competent fellows. Also, the individual may not noticeably affect a large company, but if enough of them are hurried into the production line, like so many tiny snailshells, they will wreck it; ultimately we will starve.

There is yet one higher reason for failing the borderline student—the duty to that student himself, the right to award qualifications is not the advisor to award students a less favourably in a cloistered world. The paper clearly proves that the student has the ability to learn, by experience, over more, and to work on progressively harder tasks.

Rather than qualify the limited student for a job which he cannot quite do, the examiner has to gently but firmly make aware of those limitations, the barrier for all concerned—most of all, him.

Yours faithfully,
M. B. WARRISS,
Department of Accounting,
Bristol Polytechnic.

Poly rapport

from Dr Ian Reekie

Sir,—Recently there has been evidence of some misunderstanding between polytechnic and university lecturers. This has been amply demonstrated in the columns of your paper. Such misunderstanding inevitably leads to elements of irrationality in the polytechnic versus university debate, a debate in which it is important that both sides should be contributing fairly. Perhaps a contributing factor in this misunderstanding is that while polytechnic lecturers have had direct experience of the university sector as students, postgraduates or staff, the converse is much less frequently so. It is arguable, therefore, that polytechnic lecturers know more about the university sector than the university lecturers know about the polytechnic sector. In order to try to counterbalance this unequal situation, the powers that be should consider setting up a network of visiting university lecturership within the polytechnics. This can only improve the quality of the debate. The better the rapport that exists between the two types of institution, the better equipped higher education will be to cope with the increasingly tighter economic constraints which surround it.

Yours faithfully,
IAN REEKIE,
University of Newcastle upon Tyne.

Definitions of HE

from Dr A. J. Pointon

Sir,—It was with much pleasure that I read the article by Lord Alexander (THES, June 20) "Towards a better definition of higher education". That Lord Alexander has long appreciated the need to recognize a difference in requirement and activity as between further education and higher education, between craft college and polytechnic, is well known. However, it is necessary at one point to disagree with his statement and, at another, to question the validity of his hopes.

He states, regarding recent debates on higher education, "nobody seems to have thought it necessary to define higher education". Such is not the case. First, the setting up of the Association of Polytechnic Teachers was a direct result of a group of teachers endeavouring to obtain recognition for their activities in a distinct sector of education in the face of opposition from other further education teachers and local authorities. (Indeed APT was only formed after repeated attempts to form a sector of the predominant further education union to deal with the needs of higher education had foundered on the rock of further education interests.)

Second, there have been discussions between APT and the Association of Teachers in Colleges and Departments of Education and between APT and the Committee of Directors of Polytechnics on the definition of higher education. The definition which APT has accepted would differ from that of Lord Alexander only in the stress which they put on the ability of institutions to be assimilated into a system of national finance.

Third, approaches made by APT to the Association of Metropolitan Authorities, the Association of County Councils and the Inner London Education Authority have elicited no response on this subject. In one case, the claim that no distinction (let alone definition) of higher education was recognized.

Fourth, the Department of Education and Science has stated that, even without the inclusion of the colleges of education, there are some 56 institutions which must be classed as having more than 40 per cent of work in higher education and that, therefore, no distinction between polytechnics and further education could be recognized. (However, since the 30 polytechnics accounted for 95.5 per cent of all CNAAs degrees in the local authority sector, this statement seems to be a bit odd.)

The hopes which Lord Alexander apparently has that the definition and recognition of a higher education sector might be acceptable to either FE teachers or to local authorities are, on the basis of past experience, likely to be doomed to disappointment. He has only to read the account of the pay negotiations in the Burnham FE Committee to realize that polytechnic and other higher education teachers (who have been defined by the Houghton report as those teaching work in the categories classed as I-II) were seen as a means of subsidizing FE teachers for the fourth time in the past five years. He cannot imagine that the bargaining power given to the whole FE sector by the claim of the polytechnics for parity with the universities will be readily given up. Similarly, Lord Alexander must know the views of the local authorities as well as anyone. Suffice it to remind him of the fight which is being waged by both colleges of education and polytechnics to avoid having thrust upon them the conditions of service negotiated by the Council of Local Education Authorities as if there was no such thing as a polytechnic, let alone a distinct sector of higher education.

Notwithstanding these comments it must be said that the views of Lord Alexander are a welcome ray of light on an obscure situation in which the very obscurity is being used to the detriment of public sector higher education.

Yours sincerely,
A. J. POINTON,
Assistant national secretary,
Association of Polytechnic Teachers,
Southsea,
Hants.

Bogus degrees

from the Rev R. Peters

Sir,—Among the many who will be grateful for your investigation of "bogus" colleges and qualifications (THES, June 13) are the trustees and principals of small specialist colleges. Because of their size and the relatively limited nature of their work it is all too easy for such institutions to be classed as "a bit odd".

Here, in common with most colleges which can be grouped under the general description of "bibla colleges" we provide a course of study for a college certificate (designed to be covered in two years of full-time study or proportionately longer part-time) for those students who for one reason or another are not taking examinations leading to an "external" or "extra-mural" award of the University of London. The syllabus is thorough and we have secured scholars of great eminence as examiners. Nevertheless, the existence of the kind of institution you have very properly "blown up" can lead to serious misunderstandings concerning the standing and efficiency of colleges such as this.

The DES could do much to help small institutions which are also registered as educational charities. If it could reconsider its regulations not to "inspect" colleges with fewer than 50 full-time students. We have tried to obtain inspectorial visits on two occasions, just after the college opened and again, last year, only to be told that an inspection cannot be made until we have the requisite number of 50 full-time students. As we cannot accommodate that number does this mean that we are to be "outliers" for ever, and so liable to be lumped with the places mentioned in your investigation?

Yours faithfully,
R. PETERS,
Principal,
St Aidan's College,
Broseley,
Shropshire.

The Commission of the European Communities

is organising an open competition on the basis of tests to draw up a reserve list of

Assistant Translators

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Candidates (maximum age—32) must:

- have completed a university course and obtained a degree;
- have certain appropriate experience;
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Basic annual salary ranges from £2,704—£2,856.

Full details and the OBLIGATORY OFFICIAL APPLICATION FORM are contained in the Official Journal of the European Communities No. C/140 dated 1/7/75 which can be obtained after 7/7/75 from:

a) H. R. C. Information Office, 20 Kensington Palace Gardens, London W8 4QG.

b) Commission of the European Communities Recruiting, Appointments, Promotions Division, 200 rue de la Loi, 1049 Brussels (Belgium).

c) H. M. Stationery Office, P.O. Box 569, London S.E.1 at a price of 25p. Please give number of the Journal.

Closing date for receipt of completed applications: 14/8/75.

Classified Advertisements

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Universities

UNIVERSITY OF THE SOUTH PACIFIC

Applications are invited for the following positions which are available from February 1976 in the School of Education:

PROFESSOR OF EDUCATION (CURRICULUM STUDIES)

The appointee, who should have substantial experience and research interests in secondary school curriculum development, will be responsible for developing courses in the theory and practice of Curriculum Development in the programme of study for diploma and degree currently offered by the School of Education, and for mounting the Curriculum Development component in the two-year Bachelor of Education programme with the University introduced in 1975. In addition he will be expected to initiate and encourage research in the field of Curriculum Development relevant to the developing educational systems of the South Pacific.

An important aspect of his work will be the organisation and development of the University's capacity to participate actively and effectively in the reform of regional school curricula through the establishment of a Curriculum Studies Unit in the School of Education. The UNIP/UNESCO Secondary Curriculum Development Project, which is currently operating from the School of Education, is expected to complete its work on the revision of Form I to IV curricula at the end of 1975. The appointee's task will be to ensure that the relationship which exists between the UNIP unit and regional curriculum units are maintained, and that the University takes a leading role in preparing regional personnel who can participate in curriculum reform in their own countries.

Preference may be given to applicants with experience in a developing country or a multilateral setting.

LECTURER/ASSISTANT LECTURER IN MATHEMATICS

The appointee will participate in the instruction of the undergraduate level mathematics programme offered by the School of Education to students enrolled in all three Schools of the University.

This programme includes service courses in Mathematical Methods and Inferential Statistics at the first year level, and advanced courses in the Mathematics area principally in Data Processing and Statistics. The programme also includes a research project in the field of Mathematics, Mathematical Statistics and Pure Mathematics in the third year.

Participation will also be expected in the consultation service provided by the Mathematics area principally in Data Processing and Statistics. Qualifications and experience in other of these fields is desirable. Every encouragement will be provided for the appointee in undertaking research in his own field.

Salary: Senior Professor SP11,000-SP12,000 per annum; Lecturer SP5,000-SP7,000 per annum; Assistant Lecturer SP4,000-SP5,000 per annum (all including a 10% superannuation allowance). The University also provides a housing allowance and holiday travel allowance. This supplement is in addition to the salary and is payable to single appointees or to married appointees at Assistant Lecturer level. These rates are subject to review and may increase by at least 2% per year, will apply from 1 April 1975. Superannuation scheme: 10 per cent gratuity for contract appointments; partly funded accumulation at 15 per cent of salary.

Detailed applications (2 copies) including a curriculum vitae, a recent small photograph and a statement of salary should be sent to 23 July 1975, to the Registrar, University of the South Pacific, P.O. Box 1106, Suva, Fiji. Further particulars are available from this office.

Aarhus University, Denmark

Visiting Professor in English and Related Studies

There will be a vacancy for visiting professors for the three years commencing 1st September, 1976. Initially, applications are invited for two posts, one for the Autumn term 1976 (1st September-21st December), and one for the Spring term (1st February-1st June, 1977). The following fields will have particular interest:

English literature (post-medieval) or English language and linguistics or American literature or Communication literature.

Duties will include teaching three weekly undergraduate courses, a lecture course (a wide choice of subject will be allowed), participation in the general work of the department, etc.

Applicants should possess high research qualifications, a record of published work and wide teaching experience. Salary in the region of £1,200 per month. Income tax for UK nationals according to UK rates.

Applications, including full curriculum vitae and the names of three referees, should be sent to: Professor Donald Danielsen, M.A., Ph.D., Department of English, The University, 8000 Aarhus C, Denmark. Closing date 1st October 1st 1975.

SAUDI ARABIA MEDICAL FACULTY

UNIVERSITY OF RIYADH PRE-MEDICAL AND PRE-CLINICAL SUBJECTS

The Medical College of the University of Riyadh has an intake of about 100 students annually. Women students, accepted for the first time in the academic year 1974/75, comprise a little over one third of the annual intake. For the time being, men and women students receive their pre-medical and pre-clinical instruction in segregated classes. The language of instruction is English.

Applications are invited to fill posts to afford separate instruction to men and women students in the following pre-medical and pre-clinical subjects:

CHEMISTRY Assistant Professors (2 posts)

PHYSICS Assistant Professors (2 posts)

PHYSICS Associate Professors (2 posts)

Applicants for Professorial posts should have not less than 10 years' experience of teaching at University level, while those for posts as Associate Professors should have not less than 5 years' teaching experience at University level.

Applicants for posts of Assistant Professor should be in possession of a Doctorate and have had some teaching experience at University level.

Monthly Salary Scales in Saudi Riyals (£1=approximately SR8.4) are as follows:

Professors: 6,000-200-6,000
Associate Professors: 4,800-200-5,800
Assistant Professors: 3,600-200-4,600

Annual Housing Allowance: Professors—SR20,000; Associate Professors—17,000; Assistant Professors—15,000.

Installation Allowance (given once only on first appointment) is 50% of entitled housing allowance.

Professional Allowance—Medical graduates not involved in bedside care of patients are entitled to a professional allowance as follows: Professors—10% of salary; Associate Professors—12% of salary; Assistant Professors—20% of salary.

Gratuity—After 2 years of service a gratuity at the rate of half a month's salary for each year of service. From the 6th year of service onwards the gratuity is at the rate of 1 month's salary per year of service, dating from commencement of service with the University of Riyadh. The rate will be based on the last salary obtained before separation, and will be applied to all the years served.

Taxation—Salaries, allowances and gratuities are NOT subject to income tax. Currency is Saudi Arabia's freely convertible and there are no restrictions on its transfer.

Annual leave passages: Appointments for 1 year or longer; renewable. Secondments considered.

Detailed applications (3 copies), including a curriculum vitae and the names of three referees, to be sent as soon as possible, to the University Council, P.O. Box 1106, Suva, Fiji. Further particulars will be available.

Applicants will be required to agree to the curriculum vitae submitted being circulated to the referees he/she has named.

UNIVERSITY OF DAR ES SALAAM TANZANIA

Applications are invited for the following posts in the

ECONOMIC RESEARCH BUREAU:

ASSOCIATE PROFESSOR/SENIOR RESEARCH FELLOW

Applicants should be holders of PhD in Industrial Economics or Finance with a high research reputation. Experience of research in industrial economics and administration will be an advantage. MA/MS candidates with experience in research at least four years may not be considered.

The appointee is expected to carry out a review, evaluation and appraisal of the existing industrial research in Tanzania as it affects industrial and commercial expansion. In addition he/she will assist in training junior staff in the Economic Research Bureau.

SENIOR RESEARCH FELLOW/RESEARCH FELLOW

Applicants should preferably be PhD holders, or have an MA or MSc in Industrial Economics with a high research reputation. Experience of research in industrial economics and administration will be an advantage. MA/MS candidates with experience in research at least four years may not be considered. The appointee is expected to carry out an analysis of capital formation in agriculture with the view of establishing appropriate priorities of how procedures on National Accounting can be modified to suit and enhance agricultural development.

RESEARCH FELLOW/ASSISTANT RESEARCH FELLOW

Preferably an MA or MSc holder, a BA and BSc in Economics with three to four years' experience will also be considered. Applicants should be conversant with pricing theory and pricing policies of agricultural commodities. The appointee is expected to carry out research on the long term effects of long term fertilizer subsidies, prices of major agricultural commodities. Salary scales: Associate Professor TZS 057-TZS 472 p.a.; Senior Research Fellow TZS 052-TZS 052 p.a.; Research Fellow TZS 170-TZS 170 p.a.; Assistant Research Fellow TZS 149-TZS 171 p.a.; TZS 149-TZS 171 p.a. The British Government may supplement salaries in range TZS 170-TZS 170 p.a. (overseas) for married appointees up to TZS 170-TZS 170 p.a. (overseas) for single appointees (normally free of all tax and mortgage interest) education allowances and holiday visit expenses (SSU). Family passage (2 copies), including a curriculum vitae and naming 3 referees, should be sent by mail not later than 23rd July 1975, to the Registrar, University of Dar es Salaam, P.O. Box 35899, Dar es Salaam, Tanzania. Applicants resident in UK should also send a copy to Inter-University Council, 90-91 Tottenham Court Road, London, W1P 0DT. Further particulars may be obtained from either address.

ULSTER THE NEW UNIVERSITY

The Contribution of Voluntary Organisations

to Social Welfare in Northern Ireland

Applications are invited for the post of Research Fellow (senior) in the Department of Social Work, Ulster University, Belfast. The project will evaluate the part played by voluntary organisations in social welfare and assess the contribution of voluntary agencies to social welfare.

Candidates for the post should have a relevant research experience and should also have some knowledge of social policy and social service delivery systems. Familiarity with the work of voluntary organisations and some experience of methods of organisational analysis would be an advantage.

Salary, including threshold payments (with PSSU/US\$): Negotiable but not less than £2,118 per annum. Further details should be obtained from The Registrar, The New University of Ulster, Coleraine, Northern Ireland (opening Ref: 75/62) to whom applications, including the names and addresses of three referees, should be sent not later than 14th July, 1975.

BIRMINGHAM THE UNIVERSITY

SCHOOL OF COMMERCIAL AND SOCIAL SCIENCES

DEPARTMENT OF ECONOMICS AND SOCIAL STATISTICS

SCHOOL OF STATISTICS

Applications are invited for the post of Lecturer in the Department of Economics and Social Statistics, Birmingham University. The post is in the School of Statistics.

The appointee will be responsible for the teaching of the course in Statistical Methods and will also be responsible for the supervision of research projects in the field of statistics.

Salary will be in the region of £3,000 per annum (including superannuation). Applications should be sent to the Registrar, Birmingham University, P.O. Box 363, Birmingham B15 2TT.

BIRMINGHAM THE UNIVERSITY

CENTRE FOR RUSSIAN AND EAST EUROPEAN STUDIES/DEPARTMENT OF RUSSIAN LANGUAGE AND LITERATURE

Applications are invited for the post of Lecturer in the Department of Russian Language and Literature, Birmingham University. The post is in the Centre for Russian and East European Studies.

Universities continued

JAMAICA

UNIVERSITY OF THE WEST INDIES

Jamaica

Applications are invited for

the post of Lecturer in

Social Science, to be

appointed on a full-time

basis. The successful

candidate will be

responsible for the

teaching of the

subject in the

Faculty of Social

Sciences. The

candidate should

have a minimum

of a B.A. degree

in Social Science

or equivalent

qualifications.

Further details

and applications

should be sent to

the Registrar,

University of the

West Indies,

King's College,

Jamaica.

Closing date

15th July 1978.

Applications

will be accepted

until the post is

filled.

The University

of the West Indies

is an equal

opportunity

institution.

Applications

from women

are invited.

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LONDON

UNIVERSITY OF LONDON

INSTITUTE OF EDUCATION

SOCIOLOGICAL RESEARCH

UNIT

Applications are invited for

the post of Lecturer in

Sociology, to be

appointed on a full-time

basis. The successful

candidate will be

responsible for the

teaching of the

subject in the

Faculty of Social

Sciences. The

candidate should

have a minimum

of a B.A. degree

in Sociology or

equivalent

qualifications.

Further details

and applications

should be sent to

the Registrar,

University of London,

Gower Street, London, W.C.1.

Closing date

15th July 1978.

Applications

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Applications

from women

PAPUA NEW GUINEA
THE UNIVERSITY OF THE SOUTH PACIFIC
TEACHERS' COLLEGE
Applications are invited for the post of Lecturer in Mathematics. The successful candidate will be responsible for the teaching of Mathematics in the college. He should have a degree in Mathematics and a minimum of five years' experience in teaching Mathematics at the tertiary level. Salary: K1,200 per annum. Further details and application forms may be obtained from the Registrar, University of the South Pacific, P.O. Box 11, Port Moresby, Papua New Guinea.

NIGERIA
UNIVERSITY OF NIGERIA
Applications are invited for the post of Lecturer in Mathematics. The successful candidate will be responsible for the teaching of Mathematics in the college. He should have a degree in Mathematics and a minimum of five years' experience in teaching Mathematics at the tertiary level. Salary: N1,200 per annum. Further details and application forms may be obtained from the Registrar, University of Nigeria, P.O. Box 11, Nsukka, Nigeria.

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Applications are invited for the post of Lecturer in Mathematics. The successful candidate will be responsible for the teaching of Mathematics in the college. He should have a degree in Mathematics and a minimum of five years' experience in teaching Mathematics at the tertiary level. Salary: N1,200 per annum. Further details and application forms may be obtained from the Registrar, University of Nigeria, P.O. Box 11, Nsukka, Nigeria.

SIERRA LEONE
THE UNIVERSITY OF SIERRA LEONE
Applications are invited for the post of Lecturer in Mathematics. The successful candidate will be responsible for the teaching of Mathematics in the college. He should have a degree in Mathematics and a minimum of five years' experience in teaching Mathematics at the tertiary level. Salary: S1,200 per annum. Further details and application forms may be obtained from the Registrar, University of Sierra Leone, P.O. Box 11, Freetown, Sierra Leone.

SHEFFIELD
THE UNIVERSITY OF SHEFFIELD
Applications are invited for the post of Lecturer in Mathematics. The successful candidate will be responsible for the teaching of Mathematics in the college. He should have a degree in Mathematics and a minimum of five years' experience in teaching Mathematics at the tertiary level. Salary: £1,200 per annum. Further details and application forms may be obtained from the Registrar, University of Sheffield, P.O. Box 11, Sheffield, England.

RUSSEX
THE UNIVERSITY OF RUSSEX
Applications are invited for the post of Lecturer in Mathematics. The successful candidate will be responsible for the teaching of Mathematics in the college. He should have a degree in Mathematics and a minimum of five years' experience in teaching Mathematics at the tertiary level. Salary: R1,200 per annum. Further details and application forms may be obtained from the Registrar, University of Russex, P.O. Box 11, Russex, Russia.

SIERRA LEONE
THE UNIVERSITY OF SIERRA LEONE
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WEST INDIES
THE UNIVERSITY OF THE WEST INDIES
Applications are invited for the post of Lecturer in Mathematics. The successful candidate will be responsible for the teaching of Mathematics in the college. He should have a degree in Mathematics and a minimum of five years' experience in teaching Mathematics at the tertiary level. Salary: W1,200 per annum. Further details and application forms may be obtained from the Registrar, University of the West Indies, P.O. Box 11, Port of Spain, West Indies.

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ZAMBIA
THE UNIVERSITY OF ZAMBIA
Applications are invited for the post of Lecturer in Mathematics. The successful candidate will be responsible for the teaching of Mathematics in the college. He should have a degree in Mathematics and a minimum of five years' experience in teaching Mathematics at the tertiary level. Salary: Z1,200 per annum. Further details and application forms may be obtained from the Registrar, University of Zambia, P.O. Box 11, Lusaka, Zambia.

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BRIGHTON POLYTECHNIC
Reader
Applications are invited for the new appointment in the Faculty of Environmental Studies spanning the work of the Department of Architecture and Interior Design and of Civil Engineering and Building. The Reader will have the opportunity not only to lead research within a particular specialist area but also to inspire research on a wider scale over the field of Historical, Building Design and Technological studies.

BRIGHTON POLYTECHNIC
Head of Department
(GROE V) (Re-advertisement)
Salary scale: £6,270-£7,038
Further details and application forms (to be returned by 1st September, 1975) from: The Personnel Officer, City of Birmingham Polytechnic (THES), Room T.310, Perry Barr, Birmingham B42 2SU.

Fashion Design
LECTURER GRADE II/ SENIOR LECTURER
Applications are invited from suitably qualified design graduates. The successful applicant will be responsible for the teaching of Fashion Design in the college. He should have a degree in Fashion Design and a minimum of five years' experience in teaching Fashion Design at the tertiary level. Salary: £6,270-£7,038. Further details and application forms may be obtained from the Registrar, Trent Polytechnic, Nottingham.

THAMES POLYTECHNIC
Senior Lecturer in Architecture
(£2670-£4206-£5412)
Further details and application forms from: Head of Department of Architecture, Oxford Polytechnic, Oxford OX3 0BP.

THAMES POLYTECHNIC
Senior Lecturer in Architecture
(£2670-£4206-£5412)
Further details and application forms from: Head of Department of Architecture, Oxford Polytechnic, Oxford OX3 0BP.

WEST INDIES
THE UNIVERSITY OF THE WEST INDIES
Applications are invited for the post of Lecturer in Mathematics. The successful candidate will be responsible for the teaching of Mathematics in the college. He should have a degree in Mathematics and a minimum of five years' experience in teaching Mathematics at the tertiary level. Salary: W1,200 per annum. Further details and application forms may be obtained from the Registrar, University of the West Indies, P.O. Box 11, Port of Spain, West Indies.

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Polytechnics continued
Vacancies at NELP
Applications are invited for the following posts:
ANGLIAN REGIONAL MANAGEMENT CENTRE
Department of Management Development
Principal Lecturer in Management Studies, to take responsibility for the teaching and supervision of students in the Management Studies programme.
Department of Services to Industry
Senior Lecturer in Marketing Management to take responsibility for and to teach courses in Marketing Management at post graduate and post graduate level.
FACULTY OF HUMAN SCIENCES
Department of Social Work, Health and Nursing
Senior Lecturer in Social Work, to take responsibility for the teaching of Social Work on a two year C.N.A.A. BA (Hons) Sociology Course. Applicants should be either graduates in a relevant subject and/or professionally qualified Social Workers with experience of student supervision.
OCCUPATIONAL PSYCHOLOGY UNIT
Lecturer II in Occupational Psychology. Candidates should have an interest in one or more of: Selection; Training; Working Conditions and Rewards; Industrial Relations; Job Design and Ergonomics.
FACULTY OF BUSINESS
Department of Applied Economics
Research Assistant required to join a team investigating the working of the small urban economy based on a chosen location. The appointment is for two years.
DEPARTMENT OF LAW
Lecturer II in Law to teach on BA (Hons) degree in Law and a wide range of courses in Business and Social Sciences. Applicants should have an honours degree in Law and teaching experience. Salary scales: Principal Lecturer: £6,001-£8,428; Senior Lecturer: £4,206-£5,412; Lecturer II: £2,670-£4,206; Research Assistant: £1,400-£1,700 (under review).

North East London Polytechnic
Senior Associate Lecturer in Scientific Photography. This post is suitable for someone with considerable practical experience of the scientific application of photography. Some teaching experience is desirable. The period of appointment is negotiable, but is unlikely to be for more than two years.
Applications are also invited from an art historian for an associate lecturership to teach one day per week within the faculty. A specialist in the history of 20th Century painting and sculpture is desired.
Salary Scales: Senior Lecturer, £4,206 to £5,412 (plus appropriate London weighting and cost of living supplement); Lecturer, £2,670 to £4,206 (plus appropriate London weighting and cost of living supplement).
Further details and application form from: Academic Staffing Office (2) North East London Polytechnic, Forest Road, London E17 4JL. Tel: 01-227 2272, ext. 157. Closing date: July 14. Please quote above reference no.

NEWCASTLE UPON TYNE POLYTECHNIC
Department of Behavioural Studies
Applications are invited for temporary appointments, initially for a period of two years and renewable annually thereafter, within the Department of Behavioural Studies.
LECTURER II IN SOCIOLOGY
(Three Posts)
The persons appointed will be required to teach at Degree level and should have an appropriate honours degree in Sociology and/or a postgraduate qualification in one of the following areas: Sociological Theory/Social Philosophy; Social Institutions; Sociology of Deviants/Socio-legal Studies.
RESEARCH ASSISTANT
Applications are also invited from well qualified social science graduates for this post to assist in the development of a project which is concerned with the evaluation of shop steward training in the North Sea Region. Salary Scales: Lecturer II: £2,670-£4,206 (bar) £4,476; Research Assistant: £1,400-£1,700 (under review). * Plus threshold payment of £225.68.

PRESTON POLYTECHNIC
Applications are invited for the posts detailed below, due to commence on 1st September, 1975, or as soon as possible thereafter.
PRINCIPAL LECTURER (HEAD OF DIVISION OF SOCIAL ADMINISTRATION)
To be course leader for the recently approved
SENIOR LECTURER IN ACCOUNTING
SENIOR LECTURER IN BUSINESS STUDIES
SENIOR LECTURER/LECTURER II IN LAW
SENIOR LECTURER/LECTURER II IN ACCOUNTING
(Temporary Appointment)
LECTURER II IN ACCOUNTING
LECTURER II IN BUSINESS ORGANISATION
LECTURER I or II IN SOCIOLOGY
(Temporary Appointment)
The temporary appointments are for the period 1st September, 1975, to 31st August, 1976.
Salary Scales: Principal Lecturer: £5,001-£8,412; Senior Lecturer: £4,206-£5,412; Lecturer II: £2,670-£4,476; Lecturer I: £1,869-£3,633 (plus threshold payments and under review).

PRESTON POLYTECHNIC
Applications are invited for the posts detailed below, due to commence on 1st September, 1975, or as soon as possible thereafter.
PRINCIPAL LECTURER (HEAD OF DIVISION OF SOCIAL ADMINISTRATION)
To be course leader for the recently approved
SENIOR LECTURER IN ACCOUNTING
SENIOR LECTURER IN BUSINESS STUDIES
SENIOR LECTURER/LECTURER II IN LAW
SENIOR LECTURER/LECTURER II IN ACCOUNTING
(Temporary Appointment)
LECTURER II IN ACCOUNTING
LECTURER II IN BUSINESS ORGANISATION
LECTURER I or II IN SOCIOLOGY
(Temporary Appointment)
The temporary appointments are for the period 1st September, 1975, to 31st August, 1976.
Salary Scales: Principal Lecturer: £5,001-£8,412; Senior Lecturer: £4,206-£5,412; Lecturer II: £2,670-£4,476; Lecturer I: £1,869-£3,633 (plus threshold payments and under review).

The Polytechnic of North London
Communications Officer
The Polytechnic of North London is looking for a suitable person to fill the post of Communications Officer with duties ranging from September 1975 following the appointment of a suitable holder to replace the present holder.
Applicants should have a thorough knowledge of the press and other media. The successful candidate must have experience in editing and production of publications and a variety of information work.
The person appointed will be expected to display original and creative thinking in dealing with public relations in an institution of higher education. This will involve contact with senior officers throughout the Polytechnic and with national and local press, broadcasting media and local authorities.
The salary for the post is within the salary scale £3,045-£4,371 (plus £270 London Allowance).
Further details and application forms may be obtained from and should be returned to the Secretary, The Polytechnic of North London, Holloway, N8 9DS.
Closing date for receipt of applications is 14th July, 1975.

North East London Polytechnic
Interim Faculty of Art and Design
Senior Associate Lecturer in Scientific Photography. This post is suitable for someone with considerable practical experience of the scientific application of photography. Some teaching experience is desirable. The period of appointment is negotiable, but is unlikely to be for more than two years.
Applications are also invited from an art historian for an associate lecturership to teach one day per week within the faculty. A specialist in the history of 20th Century painting and sculpture is desired.
Salary Scales: Senior Lecturer, £4,206 to £5,412 (plus appropriate London weighting and cost of living supplement); Lecturer, £2,670 to £4,206 (plus appropriate London weighting and cost of living supplement).
Further details and application form from: Academic Staffing Office (2) North East London Polytechnic, Forest Road, London E17 4JL. Tel: 01-227 2272, ext. 157. Closing date: July 14. Please quote above reference no.

Leicester Polytechnic
School of Management
LECTURER II IN MANPOWER STUDIES
(Post No. 291)
To teach mainly on postgraduate and post-graduate courses for mature students. Candidates should preferably hold a higher degree in Manpower Studies, together with suitable industrial experience.
Salary (under review): £2,670-£4,476 p.a. with merit bar possibility, plus threshold payments.
Apply for further particulars and application form to: Staffing Office, Leicester Polytechnic, P.O. Box 143, Leicester, LE1 8BH.

GLAMORGAN POLYTECHNIC
Portsmouth Polytechnic
Department of Economics
Marine Resources
Research Unit
Applications are invited for the post of Lecturer in Marine Resources. The successful candidate will be responsible for the teaching of Marine Resources in the college. He should have a degree in Marine Resources and a minimum of five years' experience in teaching Marine Resources at the tertiary level. Salary: £2,670-£4,206. Further details and application forms may be obtained from the Registrar, Glamorgan Polytechnic, P.O. Box 11, Glamorgan, Glamorgan.

GLAMORGAN POLYTECHNIC
Portsmouth Polytechnic
Department of Economics
Marine Resources
Research Unit
Applications are invited for the post of Lecturer in Marine Resources. The successful candidate will be responsible for the teaching of Marine Resources in the college. He should have a degree in Marine Resources and a minimum of five years' experience in teaching Marine Resources at the tertiary level. Salary: £2,670-£4,206. Further details and application forms may be obtained from the Registrar, Glamorgan Polytechnic, P.O. Box 11, Glamorgan, Glamorgan.

THE POLYTECHNIC OF NORTH LONDON
Communications Officer
The Polytechnic of North London is looking for a suitable person to fill the post of Communications Officer with duties ranging from September 1975 following the appointment of a suitable holder to replace the present holder.
Applicants should have a thorough knowledge of the press and other media. The successful candidate must have experience in editing and production of publications and a variety of information work.
The person appointed will be expected to display original and creative thinking in dealing with public relations in an institution of higher education. This will involve contact with senior officers throughout the Polytechnic and with national and local press, broadcasting media and local authorities.
The salary for the post is within the salary scale £3,045-£4,371 (plus £270 London Allowance).
Further details and application forms may be obtained from and should be returned to the Secretary, The Polytechnic of North London, Holloway, N8 9DS.
Closing date for receipt of applications is 14th July, 1975.

North East London Polytechnic
Interim Faculty of Art and Design
Senior Associate Lecturer in Scientific Photography. This post is suitable for someone with considerable practical experience of the scientific application of photography. Some teaching experience is desirable. The period of appointment is negotiable, but is unlikely to be for more than two years.
Applications are also invited from an art historian for an associate lecturership to teach one day per week within the faculty. A specialist in the history of 20th Century painting and sculpture is desired.
Salary Scales: Senior Lecturer, £4,206 to £5,412 (plus appropriate London weighting and cost of living supplement); Lecturer, £2,670 to £4,206 (plus appropriate London weighting and cost of living supplement).
Further details and application form from: Academic Staffing Office (2) North East London Polytechnic, Forest Road, London E17 4JL. Tel: 01-227 2272, ext. 157. Closing date: July 14. Please quote above reference no.

Leicester Polytechnic
School of Management
LECTURER II IN MANPOWER STUDIES
(Post No. 291)
To teach mainly on postgraduate and post-graduate courses for mature students. Candidates should preferably hold a higher degree in Manpower Studies, together with suitable industrial experience.
Salary (under review): £2,670-£4,476 p.a. with merit bar possibility, plus threshold payments.
Apply for further particulars and application form to: Staffing Office, Leicester Polytechnic, P.O. Box 143, Leicester, LE1 8BH.

GLAMORGAN POLYTECHNIC
Portsmouth Polytechnic
Department of Economics
Marine Resources
Research Unit
Applications are invited for the post of Lecturer in Marine Resources. The successful candidate will be responsible for the teaching of Marine Resources in the college. He should have a degree in Marine Resources and a minimum of five years' experience in teaching Marine Resources at the tertiary level. Salary: £2,670-£4,206. Further details and application forms may be obtained from the Registrar, Glamorgan Polytechnic, P.O. Box 11, Glamorgan, Glamorgan.

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ABERDEEN
ROBERT GORDON'S INSTITUTE OF TECHNOLOGY
SCOTT SUTHERLAND
SCHOOL OF ARCHITECTURE
BUILDING ECONOMICS SECTION
Lecturer in Quantity Surveying
for BSc (CNAAB) Course and Diploma Course giving exemption from Quantity Surveying professional examinations
Applicants should be professionally qualified and experienced and have a progressive approach. Further salary, research and consultancy are encouraged. Salary in range £3,216-£6,495 per annum. Assistance with removal expenses.
Details from Director, Robert Gordon's Institute of Technology, Schoolhill, Aberdeen, AB9 1FR.

CITY OF LONDON
THE POLYTECHNIC
RESEARCH ASSISTANT IN PHYSICS
Applications are invited from graduates in Physics for the post of Research Assistant in the Department of Physics. The successful candidate will be responsible for the teaching and supervision of students in the Physics programme.
Salary: £1,400-£1,700 (under review).
Further details and application form from: Academic Staffing Office (2) City of London Polytechnic, Forest Road, London E17 4JL. Tel: 01-227 2272, ext. 157. Closing date: July 14. Please quote above reference no.

MANCHESTER
MANCHESTER POLYTECHNIC
DEPARTMENT OF MANPOWER STUDIES
LECTURER II IN MANPOWER STUDIES
(Post No. 291)
To teach mainly on postgraduate and post-graduate courses for mature students. Candidates should preferably hold a higher degree in Manpower Studies, together with suitable industrial experience.
Salary (under review): £2,670-£4,476 p.a. with merit bar possibility, plus threshold payments.
Apply for further particulars and application form to: Staffing Office, Manchester Polytechnic, P.O. Box 143, Manchester, M13 9BH.

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Portsmouth Polytechnic
Department of Economics
Marine Resources
Research Unit
Applications are invited for the post of Lecturer in Marine Resources. The successful candidate will be responsible for the teaching of Marine Resources in the college. He should have a degree in Marine Resources and a minimum of five years' experience in teaching Marine Resources at the tertiary level. Salary: £2,670-£4,206. Further details and application forms may be obtained from the Registrar, Glamorgan Polytechnic, P.O. Box 11, Glamorgan, Glamorgan.

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Polytechnics continued

The Polytechnic of North London

Department of Sociology
62/64 Highbury Grove,
N.5.

Research Assistant

Applications are invited for the post of Research Assistant in the Department of Sociology at the Polytechnic of North London, to participate in a staff group research project to investigate the socio-economic factors influencing theory and policy regarding post-war inflation.

Applicants should hold a first degree in one of the following:

- Economics
- Political Economy / Labour History / Economic History

The successful candidate will show competence in two or more such economic disciplines.

The post will be initially for one year, from 1st October, 1975.

Salary Scale: £1,544 + £55 (1975) plus £350 London Allowance. In addition the three-month Agreement is applicable.

Further particulars and application forms from the Head of the Department of Sociology, 62/64 Highbury Grove, London N.5 2AB.

Enquiries to Mr. Purton (01-33 1615).

Closing date for applications—31st July, 1975.

OXFORD POLYTECHNIC

Lecturer Senior Lecturer

HUMAN GEOGRAPHY

(£2,670-£4,206-£5,412)

Temporary appointment for one year from September, 1975. To contribute to the teaching on the CNAA Master's degree, with special reference to Spatial Analysis and Political Geography.

Further details and application forms from the Secretary, Department of Geography, Oxford Polytechnic, Oxford OX3 0BP.

BRISTOL POLYTECHNIC

DEPARTMENT OF HUMANITIES

RESEARCH ASSISTANT IN LITERATURE

Applications are invited from graduates with a first degree in English Literature to assist in the research project on the development of the novel in the 19th century.

Applicants should hold a first degree in English Literature and have a good knowledge of the period.

Salary: £1,544 + £55 (1975) plus £350 London Allowance.

Further particulars and application forms from the Secretary, Department of Humanities, Bristol Polytechnic, Bristol BS1 1QY.

LIVERPOOL POLYTECHNIC

DEPARTMENT OF HUMANITIES

RESEARCH ASSISTANT IN LITERATURE

Applications are invited from graduates with a first degree in English Literature to assist in the research project on the development of the novel in the 19th century.

Applicants should hold a first degree in English Literature and have a good knowledge of the period.

Salary: £1,544 + £55 (1975) plus £350 London Allowance.

Further particulars and application forms from the Secretary, Department of Humanities, Liverpool Polytechnic, Liverpool L69 3GB.

DUNDEE POLYTECHNIC

DEPARTMENT OF HUMANITIES

RESEARCH ASSISTANT IN LITERATURE

Applications are invited from graduates with a first degree in English Literature to assist in the research project on the development of the novel in the 19th century.

Applicants should hold a first degree in English Literature and have a good knowledge of the period.

Salary: £1,544 + £55 (1975) plus £350 London Allowance.

Further particulars and application forms from the Secretary, Department of Humanities, Dundee Polytechnic, Dundee DD1 1JN.

HEATHFIELD POLYTECHNIC

DEPARTMENT OF HUMANITIES

RESEARCH ASSISTANT IN LITERATURE

Applications are invited from graduates with a first degree in English Literature to assist in the research project on the development of the novel in the 19th century.

Applicants should hold a first degree in English Literature and have a good knowledge of the period.

Salary: £1,544 + £55 (1975) plus £350 London Allowance.

Further particulars and application forms from the Secretary, Department of Humanities, Heathfield Polytechnic, Heathfield TN21 1JN.

LONDON POLYTECHNIC

DEPARTMENT OF HUMANITIES

RESEARCH ASSISTANT IN LITERATURE

Applications are invited from graduates with a first degree in English Literature to assist in the research project on the development of the novel in the 19th century.

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Salary: £1,544 + £55 (1975) plus £350 London Allowance.

Further particulars and application forms from the Secretary, Department of Humanities, London Polytechnic, London EC1A 3BB.

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NOTTINGHAM POLYTECHNIC

DEPARTMENT OF HUMANITIES

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Applications are invited from graduates with a first degree in English Literature to assist in the research project on the development of the novel in the 19th century.

Applicants should hold a first degree in English Literature and have a good knowledge of the period.

Salary: £1,544 + £55 (1975) plus £350 London Allowance.

Further particulars and application forms from the Secretary, Department of Humanities, Nottingham Polytechnic, Nottingham NG4 2BU.

HEATHFIELD POLYTECHNIC

DEPARTMENT OF HUMANITIES

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Salary: £1,544 + £55 (1975) plus £350 London Allowance.

Further particulars and application forms from the Secretary, Department of Humanities, Heathfield Polytechnic, Heathfield TN21 1JN.

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LIVERPOOL POLYTECHNIC

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PORTSMOUTH POLYTECHNIC

DEPARTMENT OF HUMANITIES

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Salary: £1,544 + £55 (1975) plus £350 London Allowance.

Further particulars and application forms from the Secretary, Department of Humanities, Portsmouth Polytechnic, Portsmouth PO1 1JN.

HEATHFIELD POLYTECHNIC

DEPARTMENT OF HUMANITIES

RESEARCH ASSISTANT IN LITERATURE

Applications are invited from graduates with a first degree in English Literature to assist in the research project on the development of the novel in the 19th century.

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Further particulars and application forms from the Secretary, Department of Humanities, Heathfield Polytechnic, Heathfield TN21 1JN.

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Fellowships and Studentships

PAISLEY COLLEGE

RESEARCH STUDENTSHIPS

Paisley College invites applications from graduates for Research Studentships leading to CNAA Awards at M.Phil. or Ph.D. Opportunities are available in the following Departments of the College:

- Biology
- Chemistry
- Physics
- Maths & Computing
- Civil Engineering
- Mechanical Engineering
- Electrical Engineering
- Social Studies
- Economics & Management

Grants similar to SRC rates are payable to successful applicants.

For full details of projects and topics available please telephone or write to:

The Secretary (Postgraduate Studies), Paisley College, High Street, Paisley PA1 2BE. Tel: 041-887 1241.

PAISLEY COLLEGE — A SCOTTISH CENTRAL INSTITUTION

BRADFORD COLLEGE

THE UNIVERSITY OF BRADFORD

RESEARCH STUDENTSHIPS

The University of Bradford invites applications from graduates for Research Studentships leading to CNAA Awards at M.Phil. or Ph.D. Opportunities are available in the following Departments of the University:

- Biology
- Chemistry
- Physics
- Maths & Computing
- Civil Engineering
- Mechanical Engineering
- Electrical Engineering
- Social Studies
- Economics & Management

Grants similar to SRC rates are payable to successful applicants.

For full details of projects and topics available please telephone or write to:

The Secretary (Postgraduate Studies), Bradford College, High Street, Bradford BD7 1AY. Tel: 0547-5311.

BRADFORD COLLEGE — A SCOTTISH CENTRAL INSTITUTION

BRADFORD COLLEGE

THE UNIVERSITY OF BRADFORD

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Colleges and Institutes of Technology

LOTHIAN REGIONAL COUNCIL

NAPIER COLLEGE OF COMMERCE AND TECHNOLOGY

Vacancies exist in:

Department of Accounting

SENIOR LECTURER (A) IN AUDITING AND TAXATION (Reference 1A/3/3)

The successful candidate will be in charge of a section of the Accounting Department and will be responsible for the organization and teaching of auditing and taxation at all stages.

Department of Biological Sciences

LECTURER (A) IN BIOLOGICAL SCIENCES (Reference 4B/10/4/11)

To lecture in Microbiology or Human Biology to Degree, in diploma in Biology and in medical technology students. Successful candidates will be required to assist in the supervision of interdisciplinary student projects.

Department of Banking and Insurance

LECTURER (A) IN ACCOUNTING (Reference 1B/1/4/3)

The successful candidate will be required to lecture up to final professional and degree standard. Applicants should possess an honours degree or equivalent professional qualifications and preferably have had industrial, professional or teaching experience.

Department of Languages

LECTURER (A) IN ENGLISH AND COMMUNICATION (Reference 2L/4/1/1)

To lecture mainly to students with a post-SCE Higher level entry in English following Higher National Diploma syllabuses in Communication Studies or Communication Arts.

Applicants should hold a degree in English and have experience of working within the communications industry, e.g. to advertising, public relations, broadcasting or associated fields.

Salaries in the range, £3,216-£5,012 (bar), £5,493 for Lecturer (A); £6,000-£7,735 (bar) for Senior Lecturer (A), with increments according to experience.

Further details and application forms from the Academic Registrar (C), Napier College of Commerce and Technology, Colinton Road, Edinburgh, EH10 3DT, to whom they should be returned by 16th July, 1975, quoting reference.

Colleges of Further Education

ESSEX COUNTY COUNCIL

HEAD OF RESOURCES (Administration)

Applications are invited from suitably qualified men or women, with appropriate experience, for this new third tier post, effective 1 September, 1975, to replace a new Institute of Higher Education (Grade 9) which is being established with effect from 1 September, 1976, by the merger of the North-East Essex Technical College and School of Art (Colchester) with the St. Osyth's College of Education (Colchester).

The salary scale will be as for a Head of Department (Grade 3) under the Burnham Salaries Report.

The duties involve the overall responsibility for the planning, development and co-ordination of the administrative function of the Institute; in particular, in the areas of Finance, Building and Grounds, Registration and Examinations, Records, Public Relations and Central Services.

Application forms and further particulars from The Director designate, North-East Essex Technical College and School of Art, Shapen Road, Colchester CO3 3LJ, to whom completed forms should be returned not later than 9 July, 1975.

GALASHIELS COLLEGE OF TEXTILES

DEPARTMENT OF MANAGEMENT STUDIES

LECTURERSHIP IN INDUSTRIAL ORGANIZATION

Applications are invited from suitably qualified persons for a Lectureship in Industrial Organization. It is essential that the applicant is a specialist in the Personnel field of activity, being able to deliver lectures and to supervise students in the field.

Applicants should have a first degree in a relevant field and a minimum of five years' experience in the field of industrial organization. Successful candidates will be required to assist in the preparation of student projects and to supervise students in the field.

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Further details and application forms from the Academic Registrar (C), Napier College of Commerce and Technology, Colinton Road, Edinburgh, EH10 3DT, to whom they should be returned by 16th July, 1975, quoting reference.

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Colleges and Institutes of Technology

LOTHIAN REGIONAL COUNCIL

NAPIER COLLEGE OF COMMERCE AND TECHNOLOGY

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Department of Biological Sciences

LECTURER (A) IN BIOLOGICAL SCIENCES (Reference 4B/10/4/11)

To lecture in Microbiology or Human Biology to Degree, in diploma in Biology and in medical technology students. Successful candidates will be required to assist in the supervision of interdisciplinary student projects.

Department of Banking and Insurance

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Department of Languages

LECTURER (A) IN ENGLISH AND COMMUNICATION (Reference 2L/4/1/1)

To lecture mainly to students with a post-SCE Higher level entry in English following Higher National Diploma syllabuses in Communication Studies or Communication Arts.

Applicants should hold a degree in English and have experience of working within the communications industry, e.g. to advertising, public relations, broadcasting or associated fields.

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Administration continued

UNIVERSITY OF LONDON KING'S COLLEGE
Biophysics Department and Medical Research
Council Cell Biophysics UnitApplications are invited for the post of
ADMINISTRATIVE ASSISTANT

to the Head of Department. Responsibilities cover a wide range of departmental and M.R.C. Unit matters, including preparation of budgets and estimates, accounts, personnel, organization of services and general administrative duties. Administration is supported by a well equipped office and computer facilities.

Applicants should be graduates preferably with some administrative experience. The post is available from September 1st 1975 for three years in the first instance. Salary scale: Administrative 18, £1,609-£3,285 according to age and experience. Plus London weighting of £399 and threshold payment of £225. These scales will rise from 1st October in line with AUT increases. Membership of USS superannuation scheme is compulsory. Applications, together with the names of two referees to: Professor M. H. F. Wilkins, King's College Biophysics Department, 25-29 Druy Lane, London WC2R 5RL. Closing date: July 7th, 1975.

LEICESTER

THE POLYTECHNIC

APPLYING FOR THE POST OF ASSISTANT LECTURER IN POLYTECHNIC. The Polytechnic of North London is seeking applications for the post of Assistant Lecturer in the Department of Art and Design. The successful candidate will be responsible for the teaching of art and design to students on the Polytechnic's diploma and degree courses. The post is available from September 1st 1975 for three years in the first instance. Salary scale: £1,609-£3,285 according to age and experience. Plus London weighting of £399 and threshold payment of £225. These scales will rise from 1st October in line with AUT increases. Membership of USS superannuation scheme is compulsory. Applications, together with the names of two referees to: Professor M. H. F. Wilkins, King's College Biophysics Department, 25-29 Druy Lane, London WC2R 5RL. Closing date: July 7th, 1975.

Colleges and
Departments of ArtBIOGRAPHIC
THE POLYTECHNIC
OF ART AND DESIGN
SENIOR LECTURER IN
PAINTING

Required for September 1975. Applications for the post of Senior Lecturer in Painting should be sent to the Director of Art and Design, The Polytechnic of North London, 125 Camden High Street, London, NW1 0AA. Closing date: July 7th, 1975.

Courses

The Polytechnic
of North LondonINTERPERSONAL
Group and
Counselling Skills

for teachers, administrators, social workers, industrial trainers, trade unionists.

Introductory
and Diploma
Courses 1975/76

Enrollment, 6.30 p.m. Wednesday, October 1, 1975.

John Southgate,
Head of Applied Behavioural Science Division,
The Polytechnic of North London,
125 Camden High Street,
LONDON, NW1 0AA.

Plymouth Polytechnic offers

POLYTECHNIC
DIPLOMA IN
EDUCATIONAL
TECHNOLOGY

One term courses starting
September, January and April

Full details from
The Registrar, Polytechnic,
Plymouth PL4 8AA

Overseas

WESTERN AUSTRALIAN
INSTITUTE OF TECHNOLOGY

Applications are invited for the academic positions listed below.

The Institute is a major, rapidly expanding college of advanced education with a current enrolment in excess of 10,000 students. The main campus is on a 240 acre site 6 miles south of Perth.

A particularly wide spectrum of studies is offered. All courses are characterised by a community oriented approach to higher education and there is an emphasis on multi and interdisciplinary approaches. Awards at diploma, degree and post graduate levels are made.

SCHOOL OF HEALTH SCIENCES

HUMAN BIOLOGY—TUTOR/SENIOR TUTOR/

LECTURER: Teach in areas of human biology in general, with particular emphasis on physiology.

MICROBIOLOGY—TUTOR/SENIOR TUTOR/

LECTURER: Contribute to microbiological programmes in general and teach specifically in the fields of medical microbiology and bacterial genetics.

ANATOMY—TUTOR/SENIOR TUTOR/LECTURER:

Teach human structure and function to therapy students. A further position with emphasis on neuro-anatomy is available.

BIOSCIENCES—SENIOR LECTURER: Integrate the

teaching activities of lecturers in the areas of anatomy, physiology, histology and kinesiology.

BIOMECHANICS—TUTOR/SENIOR TUTOR/

LECTURER: Teach aspects of medical biomechanics and physical education to therapy students. Experience in anatomy is desirable.

HEALTH PSYCHOLOGY—TUTOR/SENIOR TUTOR/

LECTURER: Develop a programme relevant to the needs of professional paramedical areas and undertake undergraduate teaching in basic psychology with application to therapy courses.

SPEECH AND HEARING SCIENCE—TUTOR/SENIOR

TUTOR/LECTURER: Supervise students in a range of clinical settings and teach speech pathology.

PHYSIOTHERAPY—TUTOR/SENIOR TUTOR/

LECTURER: (2 positions) (i) Teach and co-ordinate kinesiology and exercise therapy courses. (ii) Clinical supervision and education of physiotherapists within metropolitan hospitals and some teaching in general physiotherapy.

OCCUPATIONAL THERAPY—TUTOR/SENIOR TUTOR/

LECTURER: (2 positions) (i) Integrate occupational therapy theory and method with clinical experience and teach in related areas. (ii) Teach in work assessment, conditioning and resettlement and integrative areas with practice.

PHARMACEUTICAL SCIENCE—TUTOR/SENIOR

TUTOR/LECTURER: Teach in either biochemistry, medicinal chemistry or clinical pharmacology.

SCHOOL OF ENGINEERING
AND SURVEYING

HYDRAULIC (Civil Engineering)—SENIOR LECTURER:

Organise and lead the teaching and development of fluid mechanics and hydraulics and initiate research programmes.

STRUCTURAL ENGINEERING—TUTOR/SENIOR

TUTOR/LECTURER: Teach structural design and structural analysis. Further experience in engineering computations areas would be an advantage.

Further vacancies in the schools of SOCIAL SCIENCES, BUSINESS AND ADMINISTRATION AND APPLIED SCIENCE

will be advertised in this newspaper on 13th July, 1975.

SALARY SCALES: (on the current rate of exchange)—Tutor £394,798-£598,686. Senior Tutor £525,645-£826,745.

Leicester, £394,745-£598,686. Senior Lecturer £394,745-£598,686. Salaries are payable in Australian Dollars.

QUALIFICATIONS: Applicants are expected to have suitable academic qualifications. In addition experience in

professional practice of teaching is essential. Appointment to senior lecturer requires a high level of qualifications.

TENURE: Appointment may be either permanent or for a short-term period of up to three years. Generous short-term

contracts will be negotiated to suit individual requirements.

CONDITIONS: Rates for family, assistance for accommodation and removal expenses are payable to appointees.

Conditions of service include superannuation (similar to PBSU), six weeks' annual leave plus public holidays, three months' long service leave on completion of each seven years' service, sick leave and assisted study leave.

APPLICATIONS: Applicants should state if their preference is for permanent or short-term appointment. Outlined

applications, including a curriculum vitae and names of three referees should be submitted not later than 28th July, 1975, to The Migration Liaison Officer, Western Australia House, 115 Strand, London WC2R 9AJ. Further particulars

may be obtained from the above address.

When applying please quote reference HES

THE BRITISH COUNCIL

invites applications for the

post of

LECTURER IN

ENGLISH LANGUAGE

(Jurnal)

Department of Foreign Languages

University of London

Applications should be sent to the

Director of Studies, British Council,

11, Bedford Square, London, W.C.1.

Closing date: 10th July 1975.

Further details from the British Council.

Applications should be sent to the

Director of Studies, British Council,

11, Bedford Square, London, W.C.1.

Closing date: 10th July 1975.

Further details from the British Council.

General Vacancies

DERBYSHIRE

HAYDON SCHOOL

Applications are invited for the post of

Senior Lecturer in the Department of

Education, University of Derby.

The successful candidate will be

responsible for the teaching and

development of the Department of

Education, University of Derby.

Applications should be sent to the

Director of Studies, British Council,

11, Bedford Square, London, W.C.1.

Closing date: 10th July 1975.

Further details from the British Council.

SCOTTISH COLLEGE OF TEXTILES

Senior
Librarian

Applications are invited from professionally qualified librarians with appropriate experience for the post of Senior Librarian in charge of the library in the Scottish College of Textiles, which is a Scottish Central Institution.

The salary scale is £4,587-£6,252 per annum (eight steps). Preference will be given to those candidates who possess a university degree.

For further details and an application form write to: The Principal, Scottish College of Textiles, Galashiels, TD1 3HF.

to whom completed forms should be returned by 31st July, 1975.

General Vacancies continued

The Cecil Higgins Art Gallery
Bedford

This internationally known Gallery, as a result of a major extension nearing completion, requires:

Assistant Curators (3)

AP3, 4, 5 £2,475-£3,432

Commencing salary is negotiable*

Exceptionally good conditions apply including the provision of housing if required.

* One post requires a specialist in the 18th and/or 19th centuries, the other someone with a particular interest in ceramics and glass, and the third qualifications or experience in the field of water colour and print conservation.

For more information about individual posts a advertisement in this week's Times Educational Supplement.

Application forms and further details are available from Mr. B. Setaman, Personnel Manager, Bedford District Council, Town Hall, Bedford. (Tel: 0234 67422 or 0234 52492 if after office hours).

Closing date July 11th, 1975.

Department of Amenities

BEDFORD DISTRICT COUNCIL

Overseas continued

OVERSEAS

Are you interested in
STUDENT
ADMINISTRATION?
Then earn over
£10,600
in the next two years
TAX-FREE

As part of our important Saudi Arabian Defence Contract, we are responsible for the King Faisal Ak Academy where Saudi Arabian cadet pilots receive their education and training.

We wish to recruit a Progress Controller, who will be responsible for programme planning, maintenance of low charts and student records, and training data.

Applications are invited from men aged 25 to 60, who already possess at least three years' similar experience in an educational institution. They should preferably be qualified to at least HND/HNC level in either maths or statistics.

The successful candidate will receive free bachelor accommodation and messing, medical care and other facilities. We also offer frequent and generous travel-paid home leave, and the contract is renewable after 2 years.

Please apply with brief details of appropriate experience and qualifications, quoting Ref. No. 303/ THE or telephone Preston 634317.

The Personnel Officer (S.A.),
Saudi Arabian Support Dept.,
British Aircraft Corporation,
Warton Aerodrome,
Preston, PR4 1AX, Lancs.



BRITISH AIRCRAFT
CORPORATION

LECTURERS
Institute of Meteorology
King Abdulaziz University
Saudi Arabia

The Faculty of Sciences, King Abdulaziz University, Jeddah, Saudi Arabia, has the following vacancies in its Institute of Meteorology, and invites applications from suitably-qualified males.

Lecturer/Assistant Professor: Ph.D. (Met)
with specialization in Synoptic Meteorology.

Lecturer/Assistant Professor: Ph.D. (Met)
with specialization in Physical Meteorology.

Lecturer/Assistant Professor: Ph.D. (Met)
with specialization in Dynamic Meteorology.

Lecturer/Assistant Professor: Ph.D. (Met)
with specialization in Climatology.

Lecturer/Assistant Professor: Ph.D. (Met)
with specialization in Hydro-Meteorology.

Lecturer/Assistant Professor: Ph.D. (Met)
with specialization in Agro-Meteorology.

Lecturer/Assistant Lecturer: M.Sc. (Met)
with good teaching in Meteorology.

Meteorologist M.Sc. (Met)
with good experience in Weather Analysis.

Meteorologist M.Sc./B.Sc. (Met)
experience in handling Meteorological Instruments.

Assistant Meteorologist B.Sc. (Met)
experience in Meteorological observation and plotting.

Assistant Meteorologist B.Sc. (Met)
experience in practical Agro-Meteorology.

Assistant Meteorologist B.Sc. (Met)
experience in practical Hydro-Meteorology.

Chief Observer (Demonstrator) (5)
B.Sc./Secondary School Certificate in Weather Observations.

At least 5 years' experience in observational and plotting duties.

We are in fact looking for well-qualified, experienced and energetic persons to work in our Science Faculty. Very attractive terms and conditions of service are offered under the revised pay scales. On receipt of applications we will communicate our detailed terms and conditions of service to those candidates whom we find suitable.

Please apply in confidence with detailed bio-data and photostat copies of certificates/degrees/testimonials. Applications should be addressed to The Dean, Faculty of Sciences, King Abdulaziz University, P.O. Box 1540, Jeddah, Saudi Arabia, clearly mentioning the post and department for which the application is made. All applications must be received by July 31st 1975.

Selected candidates will be required to join the Faculty at Jeddah by 1st September, 1975.

On finalization of selection, contract will be executed through the Saudi Arabian Cultural Attaché in London or New York as the case may be.

Saudi Arabia

AUSTRALIA
SWINBURNE TECHNICAL
COLLEGE

PRINCIPAL

Applications are invited for the position of PRINCIPAL

of the Swinburne Technical College, which is a public institution.

The successful candidate will be responsible for the overall management of the college, including the development of the curriculum, the appointment of staff, and the financial management of the college.

Applications should be sent to the Director of Education, Swinburne Technical College, 125 Camden High Street, London, NW1 0AA.

Closing date: 10th July 1975.

Further details from the British Council.

Applications should be sent to the

Director of Studies, British Council,

11, Bedford Square, London, W.C.1.

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